DOCUMENT RESUME

ED 189 212 UD 020 632

AUTHOR Schubert, Jane G.
TITLE A National Demonstration of Educational Equity Resources for Women: Design Phase. Needs Assessment.
INSTITUTION American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.
SPONS AGENCY Department of Education, Washington, D.C.
PUB DATE Mar 80
CONTRACT 300-79-0711
NOTE 82p.: Some tables and figures may be marginally legible.

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Access to Education: Elementary Secondary Education: *Equal Education: Females: Field Studies: *Needs Assessment: Nondiscriminatory Education: *Sex Discrimination: Sex Fairness: *Sex Stereotypes: *Student Attitudes
IDENTIFIERS *Arizona (Tucson)

ABSTRACT

Qualitative and quantitative research methods were used to conduct an areawide assessment of equity needs in Tucson, Arizona. The needs assessment consisted of findings from a comparison of male-female data found in existing archival materials, a critical incident study of individuals who are supportive of equity practices and who are likely to participate in the implementation of a national demonstration in Tucson, and a survey that asked elementary and secondary students about attitudes on job suitability, division of labor at home and school, and class preferences. Evidence of imbalance in enrollments was found: women were underrepresented in academic and vocational courses that serve as prerequisites for higher paying jobs. A persistance of stereotypic role perceptions, especially among elementary students, but also among junior and senior high school students, was evident. Findings also indicated that high school women perceive inequities in athletic opportunities and other aspects of the school program. Reluctance on the part of female students to enroll in nontraditional courses was found, even when they expressed a desire to do so. Implications for program requirements are discussed in this report. Critical incident and student survey instruments, as well as instructions for the administration of the surveys, are appended. (MK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED189212

A National Demonstration of Educational Equity Resources for Women: Design Phase

Needs Assessment

Jane G. Schubert

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Jane G. Schubert
American Institutes for Research
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

March 1980

Submitted to the
US Department of Education/WEEA Program
Contract No. 300-79-0711

American Institutes for Research
in the Behavioral Sciences
P.O. Box 1113, Palo Alto, CA 94302 • 415/493-3550

UD020632

TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
II.	METHODOLOGY	3
	A. Archival Materials	3
	B. Critical Incidents	5
	1. Approach	5
	2. Sample	6
	3. Data Collection	7
	C. Student Survey	8
	1. Approach	8
	2. Sample	9
	3. Administration and Scoring	10
III.	ANALYSIS OF ARCHIVAL DATA	11
	A. Enrollment Balance/Imbalance	11
	B. Academic Achievement	14
	C. Faculty Composition	16
	D. Satisfaction/Dissatisfaction with School Program	16
	E. Interests and Aspirations	18
	F. Summary	20
IV.	ANALYSIS OF CRITICAL INCIDENTS	21
	A. Principal Players	22
	B. Rationales	25
	C. Setting of Event	29
	D. Cross-Tabulations	30
	E. Summary	33
V.	ANALYSIS OF STUDENT RESPONSES	35
	A. Who Should: K-2	35
	B. Who Should: Grades 3-6	38
	C. Questionnaire Results: Grades 7-12	48
	D. Summary	60
VI.	SUMMARY AND IMPLICATIONS	61
APPENDIX A:	Questions for Eliciting Critical Incidents	A-1
APPENDIX B:	Student Survey Instruments	B-1

TABLES AND FIGURES

Table Number	Description	Page
II-1	Number of Events Reported by Source of Data	7
II-2	Student Respondents by Grade and Sex	10
III-1	Enrollments in Selected Occupational Areas, TUSD #1, Fall 1977 and 1979	11
III-2	CBAT Tucson Summary 1978-79: Years of Study by Subject by Sex (Mean Years)	13
III-3	ACT Tucson Profile 1978-79: Reported Grades	14
III-4	CBAT Tucson Summary 1978-79: Reported Grades	14
III-5	ACT Tucson Profile 1978-79: ACT Scores	15
III-6	Scholastic Aptitude Test: Student Scores	15
III-7	1977-78 Statistical Report -- TUSD #1: Composition of Teaching Staff by Grade Level and Sex	16
III-8	ACT Tucson Profile 1978-79: Student Satisfaction	17
III-9	TUSD Athletic Department Girls' High School Sports Survey, Spring 1978	18
III-10	Students' Degree Level Goals	19
III-11	ACT Tucson Profile 1978-79: Interest Score Scales	19
IV-1	Principal Players: Frequency of Appearances	22
IV-2	Rationales: Frequency of Appearance	26
IV-3	Context of Event: Frequency of Appearance	29
IV-4	Principal Players Identified by Source (Frequency and Percent of Row Total)	30
IV-5	Relationship Between Principal Player and Rationale (Frequency and Percent of Row Total)	32
V-1	Who Should (K-2) Responses by Item by Sex	36
V-2	Rank-Ordering of Items by Size of D Score (K-2)	37
V-3	Percent of "Both" Responses	39
V-4	Children's Classroom Roles: Student Responses by Item, Sex, and Grade	43
V-5	Spare Time Activities: Student Responses by Item, Sex, and Grade	47
V-6	Have You Ever Thought About Signing Up for a Class . . . That Has All or Almost All Students of the Opposite Sex in It?	50
V-7	What Class Did You Consider Signing Up For?	51

Table Number	Description	Page
V-8	Who Encouraged You? All Grades Combined	52
V-9	Who Discouraged You? All Grades Combined	53
V-10	Did You Sign Up? All Grades Combined	53
V-11	Preferred Sources of Help by Grade and Sex (Percent of Respondents)	54
V-12	Sources of Help: All Grades	55
V-13	Perceived Obstacles to Signing Up for a Nontraditional Class: Percent of Responses	56
V-14	Programs You Might Choose: All Grades	57
V-15	Job Suitability: All Grades by Sex (Percent of "Both" Responses)	59

Figure Number	Description	Page
V-1	Job Suitability D Scores by Item, Grade, and Sex	41
V-2	Parental/Housekeeping D Scores by Item, Grade, and Sex	45

ACKNOWLEDGEMENTS

As with any data collection enterprise that involves many diverse tasks such as conducting personal interviews, tracking and obtaining copies of archival materials, and administering questionnaires to a large number of respondents, the outcomes reflect the contributions of several individuals. This document is a product of the combined energies of staff members at the American Institutes for Research in Palo Alto, California, and the Developmental Career Guidance Project in Tucson, Arizona. It is the first in a series of products in the design phase to construct a National Demonstration of Educational Equity Resources for Women.

The Principal Investigator, Dr. Jane G. Schubert, was responsible for the overall technical and administrative activities in carrying out the needs assessment and preparing this report. Ms. Peggie Campeau collected critical incidents, conducted a preliminary analysis of the responses, and scored a portion of the student responses. Ms. Susan McBain analyzed the archival materials and drafted the chapter on the findings. She assumed primary responsibility for modifying the K-2 and 3-6 forms of the "Who Should" questionnaires and drafting items for the 7-12 form. Ms. McBain also participated in gathering critical incidents. Ms. Marian Eaton undertook the massive task of scoring the student survey forms and compiling the data into a semblance of order that facilitated the analysis. She also initiated the analysis of the findings on the student survey and the critical incidents.

The staff at the Developmental Career Guidance Project laid the groundwork for the critical incident study, identified and obtained archival materials from the school district, and identified and obtained support from the teachers who administered the questionnaires to their students. Ms. Heather Alberts and Ms. Catherine Mendelsohn took the lead in selecting individuals from Tucson and scheduling each of the interviews for the critical incident study. These women also identified the school personnel who graciously consented to administer questionnaires to their students. Ms. Connie Daniel arranged interviews with school personnel and collected archival documents. Ms. Joyce McKay established contacts for the interviews and collected some archival materials.

All members of the project staff at both sites reviewed and commented on a draft of this report.

I. INTRODUCTION

This report presents the findings from the first of a series of activities that constitute the planning of a national demonstration of educational equity resources: an areawide assessment of equity needs. The culmination of the activities will be the design of a comprehensive three year school-based enterprise, which will combine the resources of the Tucson Unified School District Number One, the Developmental Career Guidance Project in Pima County, Arizona, and the American Institutes for Research, Palo Alto, California. During the design phase, the three organizations are working together to:

- conduct an assessment that identifies the major educational needs that must be addressed by the project;
- involve and obtain the support of a wide range of school and community groups;
- develop a systematic plan for implementing educational resources to meet the identified needs in the Tucson public schools;
- prepare a detailed plan for evaluating the processes and impact of the implementation; and
- plan a program of dissemination and demonstration designed to provide national visibility for the effort and promote further adoption and adaptation of the chosen educational resources being implemented.

A national demonstration is a logical outcome in a sequence of events intended to promote sex equity in a school environment. The sequence begins with a developmental activity such as constructing educational materials and proceeds along a continuum that leads to implementation of the materials. No standard package of resources intended to reduce barriers or enhance opportunities leading to educational equity is univerally suited to meet the needs and conditions of all communities. A necessary and critical preliminary activity to the selection of equity resources is an assessment of educational needs in the proposed implementation site.

A conceptual underpinning to the implementation of the national demonstration is the participation of Tucson residents who represent the

community-at-large in concert with all levels of educational personnel. In order for the concept of equity to be successful, it cannot be confined to a single classroom, school, or local education agency. Involvement must be obtained from the business community, parents, media, employers and others before the practice of providing educational and occupational choices to both males and females is common. Equity must be mainstreamed.

This report describes the procedures used to conduct a needs assessment among the educational and business communities in Tucson, Arizona. The findings of this assessment will provide one basis for the selection of equity resources to be used in the national demonstration.

II. METHODOLOGY

The methodology included the collection of both qualitative and quantitative data and used a comprehensive range of community and district sources. The needs assessment consists of findings from:

- a comparison of male-female data found in existing archival materials, such as achievement scores in math and science and enrollment in classes that are typically overrepresented by students of one sex;
- a critical incident study of individuals who are supportive of equity practices and who are likely to participate in the implementation of a national demonstration in Tucson; and
- a survey that asked students from the elementary, intermediate, and secondary schools about attitudes on job suitability, division of labor at home and school, and class preferences.

A. ARCHIVAL MATERIALS

We examined materials thought to contain data that would permit male-female comparisons of several aspects of school life. The objective was to identify targets of opportunity for implementation of equity resources. We met with several members of the Tucson Unified School District #1 and the Developmental Career Guidance staff to identify and select the documents that held promise of such data. A total of eleven documents was examined and five were found to be useful. A list of all reviewed documents appears below with a brief explanation of why each was or was not of value for the needs assessment. Useful documents included:

1. 1977-1978 Statistical Report, Tucson Unified School District #1, Tucson, Arizona.

   This annual report presents summary data for the district, including enrollment and employment levels, and revenue, expenditure, and tax information. Employment of teachers is shown by sex and grade level.

2. College Board Admissions Testing Program Summary Report, Tucson High School District, 1978-1979 College-Bound High School Seniors (CBAT Tucson Summary 1978-79).

   Included in this summary are the results of the Scholastic Aptitude Test (SAT) and the Test of Standard Written English (TSWE) for all Pima County high schools. The SAT includes verbal and mathematical aptitude test scores and verbal score subscales. Socioeconomic data, college plans, and self-reported high school records are also summarized. Most data are reported by sex of respondents.

3. The High School Profile Report. ACT High School Profile Report: Students Tested 1978-79 School Year, City of Tucson Composite (ACT Tucson Profile 1978-79).

   Results for all Pima County students taking the ACT Assessment in 1978-79 are included in this report. Achievement scores are presented by sex of respondent for English, mathematics, social studies, and the natural sciences. Other areas covered include summaries of a career area interest inventory, survey of educational goals, self-reported high school achievements, evaluations of aspects of high schools attended, and factors in college choice. Most of these data are also presented by sex.

4. Tucson Unified School District Athletic Department. Girls' High School Sports Survey, Spring 1978.*

   This survey was administered to 4,908 girls in all district high schools. Questions address the interest of girls in a broader intramural and interscholastic athletic program, specific program preferences, and types of problems encountered in athletic programs.

5. Vocational Course Enrollments, Fall 1977 and Fall 1979.

   Enrollment data are presented by sex for each subject taught in vocational programs in these two years. Although some subjects differ in the two years, each vocational area (home economics, business, etc.) can be compared as a whole.

The following sources were not useful for our purposes:

6. 1976-77 and 1977-78 High School Dropout Reports.

   Data are presented by sex, grade level, and ethnicity in these reports; however, no equity needs could be substantiated by this type of data.

---

* Conducted by TUSD #1 Research Department.

7. Ninth Grade Class Enrollment Data by Sex in Home Economics and Industrial Arts (Fall 1978, Tucson Unified School District).

   This report showed district enrollment difference by sex, but was not used because much more detailed, comprehensive, and comparable data were available for 1977 and 1979. Trends were more clearly identifiable from the latter reports.

8. Affirmative Action Program, City of Tucson.

   Since this report was dated 1974 and no reports of progress since then were available, it was judged not useful for purposes of this project.

9. Career Education FY 1978 (Arizona Department of Education Annual Report).

   Data in this report were not analyzed by sex.

10. Pima County Developmental Career Guidance Project: 1979 Evaluation Report.

    As above, analyses by sex were not part of the presentation of these data.

11. Tucson Unified School District Compliance Plan Summary 1978-79.

    This report presented no data related to sex equity.

B. CRITICAL INCIDENTS

1. Approach: The approach was a small-scale critical incident study of individuals in the school and business communities of Tucson who were best equipped to identify educational equity needs. The key features of this approach are that the

   - questions are open-ended, permitting latitude in the responses; and
   - focus is behavioral, eliciting examples of situations that actually happened.

This distinctly qualitative approach permits gathering as much information as possible about a particular event. It is necessary to learn about the

context in which an event occurred, the significant players of the event, the immediate outcomes, and whether or not there is evidence of long-range implications. The purpose of using open-ended items is to retain crucial information that may be lost by a more structured format. The technique requires an open mind during the data collection; judgments about the usefulness and meaning of the data occur during the analysis.

The critical incident that appears below was collected from a career counselor in one of the high schools. It illustrates the type of data gathered:

> A sophomore female student told her counselor that she was considering a career in commercial art. The counselor suggested that the student enroll in some related courses while in high school -- courses such as mechanical drawing, welding, or photography. The student was hesitant about being the only female in classes of all males. The counselor suggested that the student observe some of the classes to gain a sense of the class atmosphere and listen to a few lessons. The young woman followed the advice, but decided that she wasn't ready to join an all-male class.

The total number of such events formed the data base for this component of the needs assessment.

2. Sample. The first step was to identify categories of individuals who had first-hand experience with situations that enhance or limit participation of males and females in school and occupational programs. These categories were identified as employers (large and small companies, public and private firms); school personnel (faculty, counselors, administrators, and non-certified employees); parents (Anglos and non-Anglos); and the women's community. The individuals included in the critical incident study were selected by staff members of the Developmental Career Guidance (DCG) Project who tapped their reservoir of more than 5,000 community resource people. DCG staff assumed responsibility for contacting the respondents and arranging interviews.

Table II-1 characterizes the respondents.

TABLE II-1

Number of Events Reported by Source of Data

	Source	Number of Reporters	Number of Events	Percent of Total Events
I.	Business Community	13	35	23.5
II.	Parents	18	19	12.8
III.	Teachers	24	27	18.1
IV.	Counselors (including Job Developers)	22	25	16.8
V.	School Administrators	5	6	4.0
VI.	School Staff	5	7	4.7
VII.	Women's Community	8	21	14.1
VIII.	Miscellaneous (EEOC) (Univ. of Arizona Placement Center)	2	9	6.0
		97	149	100.0

3. Data Collection. AIR staff members gathered critical incidents in two ways. The first was through personal interviews (one-on-one) with a respondent; the second was through small group interviews with groups such as a parent support cluster or a group of student services administrators. Such occasions permitted an expansion of the number of respondents in addition to increasing exposure for the project. In these four meetings, a staff member usually appeared as an "agenda item" on a regularly scheduled program. We presented a summary of the project, a request for incidents, and an explanation of how the data would be used. The size of the group (usually 5 to 8) allowed interaction among all participants; the conversations and observations by one member often triggered additional critical incidents. Sometimes the project staff member recorded the events offered and sometimes respondents wrote the event description.

Most of the interviews were one-on-one and lasted for approximately 45 - 60 minutes. Each of the respondents heard an orientation similar to the one described above. Trigger questions for eliciting incidents were prepared for each of the respondent categories. We did not ask any

respondent to "describe the gaps in educational equity" in Tucson. Examples of the questions we did ask appear below:

- Think about a time when you had a conversation about class selection with a female student that made you think she preferred (or did not prefer) to enroll in a class typically underpopulated by girls.

- Think of a recent time when an event occurred in your firm that made you feel that there is (or is not) a future for women in this occupation. The occurrence could involve recruiting, hiring, training, job performance, or termination.

Respondents were not forced to answer any question. If they were unable to think of an event, we asked another question. We sought both positive and negative examples. We also listened for additional cues during a respondent's comments that could lead to more events. The list of trigger questions appears as Appendix A.

The most important requirement in gathering critical incidents is comprehensiveness of information. It is imperative that the interviewer obtain a complete description of what actually happened, who was involved in the episode, what the immediate consequences of the occurrence were, and what, if any, long-term implications were apparent. Each event is recorded on a 5x8 card along with the provider's category.* The card format allows easy sorting of events into different categories during the analysis.

C. STUDENT SURVEY

1. Approach. Students representing elementary, intermediate, and secondary grades completed structured paper/pencil instruments designed to measure opinions regarding male-female roles at home, school, and work. Students in grades 7-12 also responded to items about preferences and experiences in school programs. Three forms were used:

---

* Respondents' names are not recorded with the data. Confidentiality is maintained throughout.

a. K-2 students received an adaptation of the K-2 form of the "Who Should Test" developed by Project Equality, Highline Public Schools in Washington. Each of 11 items asks students who should perform jobs at home, school, or work. This form presumes no reading ability; the form is administered orally and students respond by circling one of three pictures (to indicate a choice of male, female, or both) on their answer sheets.

b. Grades 3-6 students responded to an adaptation of the 3-6 form of the "Who Should" test; the items also require decisions about whether a male, female, or both should perform certain tasks. The instrument consists of 47 items organized into four topical clusters: job suitability, classroom roles, parental/housekeeping roles, and leisure time activities.

c. Grades 7-12 students responded to a series of 39 multiple-choice items organized into topical clusters: student experiences in considering nontraditional classes, factors that helped or hindered their choice, classes or programs they would like to have offered in their schools, and suitability of occupations by sex.

AIR modified the "Who Should" instruments by eliminating some of the items so the forms could be administered in approximately 30-40 minutes. Some items were dropped because they were inappropriate for Tucson residents. The questionnaire constructed for students in grades 7-12 was developed by AIR staff; many items were drawn from findings of the critical incident study. All forms received in-house review at AIR and by the Tucson Unified School District Research and Evaluation Department, which granted approval for use in the schools. Final versions of these instruments appear as Appendix B.

2. Sample. Student participants in the survey were members of classes taught by 17 faculty who attended a teacher/counselor seminar.* We made no attempt to stratify the sampling pattern; we were interested in polling as many students as possible in an efficient and timely manner. This group of teachers was a natural resource and they enthusiastically agreed to administer the questionnaires.

---

* This meeting took place on 12 December 1979. The participants met to brainstorm issues related to implementing a national demonstration in the Tucson public schools.

The request was for each teacher to administer the instruments to one class; we assumed an average of 35 students per class. Therefore, we expected to have a student sample of approximately 500 - 550 pupils. We misjudged on two counts: the per class size was smaller than we assumed, and we underestimated the willingness of the teachers to poll more than one class. Several teachers requested permission to survey more than one class, a request that was willingly granted. The outcome was a return of more than 1,000 questionnaires. The final tally of returned questionnaires is shown in Table II-2.

3. Administration and Scoring. Seventeen staff members (including fifteen teachers, one counselor, and one librarian) administered the instruments. Each administrator received a set of instructions that included a request for ethnic identification of each respondent. No student names were recorded. Teachers were not asked to score the items. The administration was designed to last no more than 40 minutes and teachers were provided with stamped, self-addressed envelopes in which to return the forms to AIR where scoring and coding were completed.

TABLE II-2

Student Respondents by Grade and by Sex

Grade	No. of Males	No. of Females	Total	Percent of Respondents
K	4	4	8	0.8
1	38	32	70	6.8
2	10	10	20	1.9
3	28	26	54	5.3
4	36	36	72	7.0
5	53	52	106*	10.3
6	66	74	141*	13.7
7	73	97	170	16.6
8	14	18	32	3.1
9	10	20	30	2.9
10	81	92	174*	17.0
11	55	52	108*	10.5
12	18	23	41	4.0
	486	536	1026*	99.9

* Totals include four students whose sex was not indicated.

III. ANALYSIS OF ARCHIVAL DATA

Several classes of archival data were reviewed in the search for indicators of potential equity needs. Included were data on course enrollment, self-reported grades, scores on standardized tests, composition of elementary and secondary faculty, expressions of satisfaction/dissatisfaction, and indications of interests and aspirations. Each of these classes of data is summarized below.

A. ENROLLMENT BALANCE/IMBALANCE

There are no formal restrictions to entry for any class in TUSD #1. However, enrollment patterns in some classes, particularly vocational education classes at the high school level, remain substantially unbalanced in traditional directions. Table III-1 presents data for Fall 1977 and Fall 1979. Although the categories for the two years are not identical, they are very similar and clearly show that trends toward more balanced enrollments are minor.

TABLE III-1

Enrollments in Selected Occupational Areas
TUSD #1, Fall 1977 and 1979

	Male	Female	Total
1977			
Agriculture	45 (63%)	26 (37%)	71
Trade and Industrial Occupations	175 (54%)	150 (46%)	325
Cosmetology	2 (1%)	133 (99%)	135
Other	173 (91%)	17 (9%)	190
Business and Distributive Education	404 (18%)	1886 (82%)	2290
Bilingual Business Education	1 (4%)	27 (96%)	28
Home Economics			
Occupational Home Economics	35 (31%)	78 (69%)	113
Consumer and Homemaking	257 (15%)	1430 (85%)	1687
Health Education	2 (18%)	9 (82%)	11
1979			
Industrial Education	414 (77%)	123 (23%)	537
Occupational Training T&I Cluster	130 (75%)	44 (25%)	174
Other Industrial Education	283 (91%)	29 (9%)	312
Cosmetology	1 (2%)	50 (98%)	51
Business and Distributive Education	443 (20%)	1809 (80%)	2252
Bilingual Business Education	22 (11%)	187 (89%)	209
Home Economics	438 (18%)	2023 (82%)	2461
Occupational Home Economics	54 (38%)	90 (62%)	144
Consumer and Homemaking	384 (17%)	1933 (83%)	2317
Health Education	0 (0%)	7 (100%)	7

The AIR Vocational Education Equity Study, completed in 1979 for the U.S. Office of Education, used a 20%/80% enrollment figure as the criterion for identifying vocational education programs in which sex stereotyping was operative. This figure was chosen because it is commonly used in the literature and in Congressional testimony. Based on this criterion, sex stereotyping was operative in 1977 in TUSD #1 for courses in business education, bilingual business education, consumer and homemaking (non-occupational) education, and trade and industrial occupations. Health education also qualifies, but the number is so small that no meaningful interpretation can be made. In the case of trade and industrial, the overall breakdown appears quite equitable -- 54 percent males and 45 percent females -- but the removal of cosmetology from the total figures reveals a far different situation. In cosmetology, enrollment figures are one percent males, 99 percent females; in the remaining occupational classes classified as trade and industrial, enrollments are 91 percent males, nine percent females.

In 1979, there is little overall improvement in all areas except for one subcategory of industrial education, the occupational training T&I cluster. This is the ninth grade survey course in which students can explore four out of nine industrial areas before enrolling in actual vocational training courses. While the trend toward a more balanced enrollment in this cluster is certainly encouraging, it is not borne out in actual vocational class enrollments, as the "Cosmetology" and "Other Industrial Education" data show.

In business education, a slight improvement is apparent: the percentage of males enrolled increased from 18 percent in 1977 to 20 percent in 1979. Bilingual business education showed a larger improvement, with enrollment of males up from 4 percent to 11 percent (based on small numbers).

In 1979, consumer and homemaking education was taken by a slightly larger percentage of males than in 1977: 17 percent versus 15 percent. Percentages for cosmetology and other industrial education changed very little. In fact, the only bright spot in the enrollment picture in 1979

is the occupational training T&I cluster. Some changes in the classification of courses complicate the comparisons, but generally stereotyping diminished very little between 1977 and 1979.

TABLE III-2

CBAT Tucson Summary 1978-79
Years of Study by Subject by Sex (Mean Years)

	Male	N	Female	N
English	4.08	171	4.16	181
Mathematics	3.56	171	3.13	181
Foreign Languages	2.04	171	2.45	179
Biological Sciences	1.14	170	1.08	179
Physical Sciences	1.91	171	1.62	180
Social Studies	2.59	171	2.70	179

With regard to academic course enrollments, the data are less complete. For the sample of students taking College Board tests, the years of study for various subject matter areas are reported in Table III-2. In common with most published data, women enrolled in somewhat fewer courses in math and physical sciences. Since the group taking College Board tests is a select one, it is very likely that the observed underrepresentation would be more pronounced in the total population.

We infer from these data that there is a need to get more women into courses -- both vocational and academic -- which are pre-requisite for entry into higher-paying, male-dominated occupations.

B. ACADEMIC ACHIEVEMENT

Two types of data were available. For students taking College Board or ACT Program tests, self-reported grades are reported in Tables III-3 and III-4.

TABLE III-3

ACT Tucson Profile 1978-79: Reported Grades

	Male			Female		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	3.04	.90	854	3.31	.78	955
Mathematics	2.56	.98	837	2.55	.99	940
Social Studies	3.32	.79	846	3.29	.80	955
Natural Sciences	3.04	.89	829	3.08	.87	934

TABLE III-4

CBAT Tucson Summary 1978-79: Reported Grades

	Male	N	Female	N
English	3.55	170	3.63	180
Mathematics	3.05	169	2.92	180
Foreign Languages	3.46	142	3.51	165
Biological Sciences	3.61	160	3.59	170
Physical Sciences	3.47	162	3.35	172
Social Studies	3.67	169	3.61	180

For the large group taking the ACT tests, the only significant difference is the higher grades reported in Table III-3 by women in English courses ($t = 6.8$, $p < .001$). The significance of the small differences reported in Table III-4 cannot be computed, since standard deviations are not given. The largest difference is .13 grade points for math, and it is at least doubtful that a difference of this size is meaningful.

The second set of achievement data consists of the scores earned in the two testing programs. Table III-5 presents the results for the ACT, and Table III-6 the results for the College Board SAT. With the very large number of students taking the ACT, all of the differences in Table III-5 are significant; women earn higher scores in English and lower scores in math, social studies, and natural sciences. For the SAT, men earn significantly higher scores than women on both verbal and quantitative sections.

TABLE III-5

ACT Tucson Profile 1978-79: ACT Scores

	Men			Women		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	17.9	5.3	880	18.8	5.3	987
Mathematics	19.4	7.0	"	16.1	6.9	"
Social Studies	19.0	7.2	"	17.1	6.8	"
Natural Sciences	22.8	6.0	"	20.2	5.6	"

TABLE III-6

Scholastic Aptitude Test: Student Scores

	Men			Women		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Verbal	497	108	165	469	102	162
Quantitative	558	117	165	481	104	162

It is clear that with the exception of English, the achievement levels of females in Tucson are lower than those of males, a situation that reflects a nationwide problem whose solutions are just beginning to be sought. Differences in mathematics and scientific subject areas are especially critical because knowledge in these areas is fundamental to many better-paying jobs in the U.S.

C. FACULTY COMPOSITION

At the high school and middle school levels, a good balance of male and female teachers has been achieved by TUSD #1. At the elementary level, however, a typical underrepresentation of men is evident in Table III-7. The ratio of male to female teachers is about 1:5. It is reasonable to assume that this disparity reinforces students' perceptions of women's roles as caretakers of children and homemakers in general. Such perceptions are particularly influential for K-6 students, who are not yet able to distinguish the roles women do play from those they might play in this society.

TABLE III-7

1977-78 Statistical Report -- TUSD #1
Composition of Teaching Staff by Grade Level and Sex

Teachers Employed	Elementary	Jr. High	Sr. High	
Men	226	203	541	
Women	1,177	274	428	
	1,403	477	969	2,849

The underrepresentation of male teachers at the elementary level should not be ignored.

D. SATISFACTION/DISSATISFACTION WITH SCHOOL PROGRAM

The archival data contained two sources of information on student satisfaction with school programs. The first was ACT data on satisfaction with aspects of the local high school, shown in Table III-8. In most cases, the numbers of men and women who were satisfied and felt no change was needed were about equal; however, more women than men were dissatisfied (fewer women than men felt neutral about these aspects). In particular, significantly more women than men felt that improvements were needed in classroom instruction, guidance services, provisions for special help in reading and math, and adequacy of programs in career education and planning. It appears from these data that these women's needs for academic and career preparation were not met as well as those of their male counterparts.

TABLE III-8

ACT Tucson Profile 1978-79: Student Satisfaction

		SATISFIED, NO CHANGE NECESSARY		PRETTY MUCH NEUTRAL		DISSATISFIED, IMPROVEMENT NEEDED		NO EXPERIENCE	
		FREQ	PC	FREQ	PC	FREQ	PC	FREQ	PC
CLASSROOM INSTRUCTION	MEN	456	53	230	27	169	20	3	0
	WOMEN	482	50	210	22	273	28	6	1
NO. & VARIETY OF COURSE OFFERINGS	MEN	532	62	145	17	180	21	2	0
	WOMEN	590	61	139	14	238	25	4	0
GRADING PRACTICES & POLICIES	MEN	430	50	228	27	191	22	9	1
	WOMEN	499	51	215	22	250	26	5	1
NO. & KINDS OF TESTS GIVEN	MEN	438	51	281	33	134	16	4	0
	WOMEN	497	51	298	31	162	17	10	1
GUIDANCE SERVICES	MEN	453	53	166	19	200	23	37	4
	WOMEN	476	49	148	15	304	31	41	4
SCHOOL RULES, REGULATIONS, AND POLICIES	MEN	313	36	224	26	310	36	11	1
	WOMEN	412	43	207	21	344	36	6	1
LIBRARY OR LEARNING CENTER	MEN	501	58	188	22	153	18	19	2
	WOMEN	558	58	185	19	205	21	18	2
LABORATORY FACILITIES	MEN	433	51	211	25	147	17	63	7
	WOMEN	504	52	240	25	157	16	67	7
PROVISIONS FOR SPECIAL HELP IN READING, MATH, ETC.	MEN	286	33	171	20	164	19	233	27
	WOMEN	302	31	140	14	247	25	281	29
PROVISIONS FOR ACADEMICALLY OUTSTANDING STU.	MEN	391	46	180	21	141	16	145	17
	WOMEN	443	46	172	18	206	21	148	15
ADEQUACY OF PROGRAMS IN CAREER EDUC. & PLANNING	MEN	368	43	201	24	206	24	80	9
	WOMEN	433	45	168	17	301	31	66	7

The second source of information was a spring 1978 survey of the needs and interests of district high school women in athletics. Selected results are shown in Table III-9. A majority of women interviewed wanted a broader intramural program. A small percentage of women had encountered problems in their athletic programs; the most frequently mentioned were problems concerning trainers, training rooms, locker rooms, practice time, and facilities. Of those women who mentioned various problems, 11 percent to 21 percent stated that the problem was related to men's use of the needed time or space.

Table III-9
TUSD Athletic Department Girls' High School Sports Survey
Spring 1978

1. Are you interested in a broader intramural program in your school?

Yes: 2796 (57%) No: 1781 (36%)

6. If you have participated in athletics, have you encountered problems in any of the following areas?

	Yes		No	
	N	Percent of 4908	N	Percent of 4908
Trainer: (Twenty-one percent of the "yes" respondents stated trainer not always available and/or boys have priority.*)	491	10	2510	51
Training Room: (Fourteen percent of the "yes" respondents stated boys have priority for use.)	266	5	2634	54
Locker Room: (Seventeen percent of the "yes" respondents stated there is no girls' varsity locker room.)	508	10	2444	50
Practice Time: (Sixteen percent of the "yes" respondents stated there is not enough time and/or boys have choice times or practice first.)	661	13	2295	47
Facilities: (Eleven percent of the "yes" respondents stated boys have priority for use of facilities.)	477	10	1981	40

* The remaining "yes" respondents in each of these areas commented on issues not directly related to equity.

This type of data reveals more than a lack of equality of services; it reveals an awareness on the part of high school women of the quality of services they are receiving and a positive desire for improvement. In other words, there are at least some women in TUSD #1 high schools who will be motivated to take advantage of services offered to improve the educational program and to equalize opportunities for women and men.

E. INTERESTS AND ASPIRATIONS

Relevant data under this topic come from both the College Board and ACT program results. The College Board summary includes degree-level goals for men and women in the Tucson area taking the test. These data are shown in Table III-10. In this fairly select group, men and women

have approximately equal aspirations up to the master's degree level. However, about 4.5 percent more men than women desire to obtain the Ph.D., M.D., or equivalent professional level degree level.

TABLE III-10

Students' Degree Level Goals

	Percent Males (N = 169)	Percent Females (N = 178)
Two-year training program	0.0	0.6
A.A.	0.0	0.0
B.A. or B.S.	26.0	27.5
M.A. or M.S.	26.0	26.4
M.D., Ph.D., Other Professional Degree	33.7	29.2
Undecided	14.2	16.3
Two-year program or Degree	0.0	0.6
Graduate Study	59.8	55.6

The ACT interest score scales for men and women are shown in Table III-11. The results for this group show a fairly traditional pattern for men and women: women are more interested in creative arts and social sciences, while men are more interested in science and technical topics. National norms show the same differences.

TABLE III-11

ACT Tucson Profile 1978-79: Interest Score Scales

	Men			Women		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Science	52.4	9.5	867	49.6	10.7	979
Creative Arts	49.8	9.7	"	51.8	9.8	"
Social Service	47.1	10.4	"	50.9	9.6	"
Business Contact	48.3	9.7	"	48.8	9.5	"
Business Detail	48.6	9.3	"	48.9	10.2	"
Technical	52.0	10.0	"	48.3	10.0	"

F. SUMMARY

The archival data presented here show that the Tucson Unified School District shares many of the educational inequities common to American society. In particular, enrollments and achievement levels in areas required for better-paying jobs are lower for women than for men; men are underrepresented on elementary faculties; high school women perceive more deficiencies in important school programs than do high school men; women aspire to somewhat lower goals; and men and women show traditional patterns of interests.

IV. ANALYSIS OF CRITICAL INCIDENTS

One hundred and ninety events, reported by 97 respondents, were collected for the critical incident study. Twenty-three of these were found to be incomplete and were later discarded. Of the 167 usable events, the 149 which demonstrate "needs" are the focus of the findings. The remaining 18 events involve "positive" content.

The purpose of critical incident analysis is to classify and organize the elements of the data set in a manner that reveals the major themes running through the events. In a small-scale study such as the present one, it is impossible to map the domain in great detail, but it should be possible to identify principal clusters of events. These can serve collectively to give a first approximation of the domain and individually to guide data collection in a broader study should this be desired. For a needs assessment leading to selection of equity resources, the principal clusters identify opportunities for intervention by defining the target population and the issues to be addressed.

Classification is an iterative process. The basic judgment in regard to any pair of events is whether they are "same" or "different." This judgment is made for each event with reference to all other events. The classifier judges the events within each cluster to reflect a single theme that differs from the theme represented by any other cluster. The frame of reference within which these judgments of like and unlike are made must be selected at the outset to reflect the ultimate objectives of the analysis. The purpose of our needs assessment is to construct a framework to guide the selection of equity resources for the Tucson Public Schools. We devised a three-tiered classification scheme that identifies the following:

- the principal player: the prime subject in an incident, (ten categories of principal players were involved);
- the rationale: the reasons given by a principal player for why something cannot or should not happen (five types of rationales emerged from the incidents);
- the setting: the context of the occurrence (there were four environments for the incidents).

Each event was classified, in turn, according to each of these three dimensions. Our purpose in sorting each of the events three times was to determine who should be the target of the intervention (the principal player), what the substance of the intervention should be (rationale), and where the intervention ought to occur.

A. PRINCIPAL PLAYERS

The first sort organized the events by the principal player. We identified ten different populations toward whom equity resources could be directed. Table IV-1 identifies these populations and the number of times each type of player appeared in the events.

TABLE IV-1

Principal Players: Frequency of Appearances

Player	Frequency of Appearances	Percent of Total
1. Elementary Student	22	14.8
2. Secondary Student	44	29.5
3. College Student	6	4.0
4. Parents/Friends	10	6.7
5. Teachers	10	6.7
6. Counselors	5	3.4
7. School Administrators	1	.7
8. Other Adults/School	2	1.3
9. Other Adults/Non-School	26	17.4
10. Employer	23	15.4
	149	99.9

The types of populations are self-explanatory except for "other adults/non-school." The adults outside of school (item 9 in Table IV-1) typically belonged to the business sector -- they were employees, job applicants, and apprentices, for example. We have a few events in which the spouse of a college student is the player.

The most frequently mentioned individuals "in need" of equity materials are students at the secondary levels. Nearly one-third of the subjects

identified as persons who thwarted explorations of new opportunities for themselves or for others were males and females in junior and senior high school. In the following examples the principal players are underscored:

> A female student told her junior high school principal (also a female) that she would like to be a principal, but should probably be a secretary. The adult described how she became a principal and suggested that the young woman think seriously about striving for the type of job she would really like to hold. The principal invited the student to observe activities in her office for a day before rejecting the notion of becoming a principal. The young woman accepted her advice and has not yet dropped the idea of such a career, even though she believes it is a risk.
>
> Two sophomore female students enrolled in a general metals class. At the time, they knew they would be the only females among many males, but wanted to take the class anyway. Both young women dropped out of the class before the end of the quarter because they said the male students were harassing and making fun of them. It was too difficult to work.
>
> A young woman expressed interest in running for an office in the student government. Her first choice was president, but she told one of her teachers that president was a "boy's" office and therefore she would not become a candidate. She was not interested in other options.

In our classification scheme, both males and females can be principal players, and therefore targets for intervention materials. In two of these events, female students emerge as the principal players. For whatever reasons, the young woman who thinks she might like to be a school principal assumes she either cannot or should not. Materials that remove sex stereotyping among career options might be a potential remedy. Similarly, the young woman who decides not to run for president of the student government limits her options.

Male students also demonstrate needs for equity resources. In one of the events described above, the women claim to have dropped the general metals course because they were harassed by their male classmates. We identify the males as the key players in this instance because they are presented as the source of the females' difficulty. If, on the other hand, the females had not enrolled in the metals class because they believed it

was inappropriate behavior, they would be the focus of an intervention strategy.

The second most frequently mentioned type of player, the non-school adults, represents 17.4 percent of the principal players. Primarily from the business community, these individuals are employees and occupants of a variety of other roles for whom increased awareness of barriers to women's educational and occupational opportunities is necessary. We will discuss the prospects for materials that address the school-work link later in this report.

The employer group, which accounts for 15.4 percent of the players, is closely related to the above category. Together, the two groups represent 35.8 percent of the sample and might be considered jointly when choosing equity resources. The data contain situations such as the following:

> A female employee of the school district was, at one time, interested in selling cars. She visited several local car dealers to explore the possibility, but received little encouragement. One sales manager explained that he thought a female salesperson would be unable to interact with the customers or compete with the other salespeople. He suggested she consider a career in real estate.
>
> A female training for loan officer in a bank was asked by a male customer if he could speak with a loan officer. She told him that she was a loan officer -- could she assist him? He replied that he wished to conduct business with a man, not a woman, and asked to see her supervisor. The supervisor assured the customer that the female loan officer would be able to serve him.
>
> A male management consultant advised two women who desired to open a cooking school not to do it. He said that one of the women should be home caring for her invalid husband, and the second should volunteer for agency work. They ignored his advice, opened the school, and now encourage other women to become entrepreneurs.

In the first event, our target is the sales manager of the dealership who was reluctant to hire a female salesperson. Our second player, a customer, seems unwilling to acknowledge the capability of a woman to perform a job he views as more appropriate for a man. And from our perspective,

the third player, the management consultant, is ill-suited to a position whose responsibility is to guide and advise on career options because he is channelling via traditional stereotypes.

Another set of players that deserves attention is the elementary students, who comprise 14.8 percent of the principal players. Three examples follow.

> A young woman who works with a Brownie troop reported a group discussion about careers. One girl said that she wanted to be a policewoman, but some of the other girls objected, saying that she could not have that type of job. The career-minded Brownie said that she watched CHIPS on television and knew it was possible for a woman to become a police officer.
>
> When it was time to recycle the student volunteers for classroom chores, none of the boys volunteered to dust. "It's girls' work," they protested. "Who are the janitors in this building?" asked the teacher. "And who runs the XYZ cleaning service in this neighborhood?" (the father of one of the pupils in the class). Although the teacher was unsuccessful in recruiting male dusters, she drafted a few for the squad. They did their jobs with no complaints.
>
> A mother was playing with her four year old son. He wanted to be a doctor in the play. She told him that she wanted to be the doctor; he said she ought to be the nurse. She suggested that he be the nurse and she the doctor, but that didn't please him. He stated that she was going to be a boy and he was to be the girl: an unsatisfactory arrangement.

The Brownie recognized career options, but her young friends did not. They require assistance in expanding their horizons. The male players in the second event needed help recognizing inconsistencies in their own feelings. Our young doctor represents a classic example of occupational stereotyping.

B. RATIONALES

We reassembled the events and sorted them according to the rationales each player offered for an event not to occur. The second sort, a more substantive one, generated five straightforward types of explanations for

why females should or ought not behave in a specific way -- such as lack of ability, inappropriate behavior for a female, and so forth. Seven incidents fell into a miscellaneous cluster. The results of the second grouping appear in Table IV-2.

TABLE IV-2

Rationales: Frequency of Appearance

	Rationale	Frequency of Appearence	Percent of Total
1.	Lacks Ability	22	14.8
2.	Inappropriate Activity	49	32.9
3.	Does Not Work	15	10.0
4.	Will Not Work	17	11.4
5.	Player Does Not Recognize Options	39	26.2
6.	Other (interoffice rivalry, excuses)	7	4.7
		149	100.0

The first rationale is clear. A player states that a woman lacks the ability to do something -- fly an airplane, lift a piece of machinery, or compute arithmetic problems. In the second rationale, we tried to segregate the events containing examples of sex role stereotyping -- a woman should not do that type of work, it's an unsuitable job for a woman, or women just don't do that kind of thing. The distinction between the third and fourth thematic categories is experience contrasted with attitude. For example, those whose rationales are classified as "<u>does</u> not work" cite or imply personal experience or knowledge gained from other sources. Those who say something "<u>will</u> not work" often express attitudes or opinions rather than citing experience. The last major theme generated by the data suggests that many people continue to be unaware of options within both the educational and occupational sectors. The miscellaneous category represents a mixture -- competition among colleagues, or employer not posting a job opportunity.

The data suggest the issues to be addressed when expanding opportunities and reducing barriers for both males and females. For example, the rationales most frequently adopted (32.9 percent) by the principal players

fall into the "inappropriate activity" category. Here are a few illustrations:

> A high school teacher led a discussion on the introduction of women guards in male prisons. Many of the male students felt it was improper because women were not equipped to handle crisis situations; they were too emotional. And they might see men when they were naked! A few girls noted that women responded well to stress situations and that in real emergencies both male and female guards would be requesting help.
>
> A young woman, recently divorced, tried to find a job in the copper mines through an apprenticeship training program. She is the sole support of her child and wants a job that pays well. Her family is nonsupportive: her father tells her that the mines are no place for a woman and she should work in an office where she belongs.
>
> A few parents called a junior high school principal because they were unhappy about their daughters' taking a course in wood shop. It was an activity which girls were not supposed to do. The principal met with the parents but they remained firm. The girls dropped the class.

The second highest category of rationales was "player does not recognize options," representing 26.2 percent of the events. The following events illustrate:

> An eighth grade boy who was a very good basketball player and a member of a coed physical education class resisted a teacher's urging that he attend a demonstration by a member of the French Theater of Ballet. The teacher explained that no one would be asked to participate; only the dancers would perform. The purpose was to show the class another form of dance. The young man enjoyed the demonstration and began to practice some basic movements with other members (both male and female) of the class.
>
> A male teacher asked a class what special items they would like to have in their adult life. One young woman replied: "A Porsche." The teacher told her that she would have to marry a very rich man, but she replied, "No way: I will have my own job and be able to pay for the car myself."
>
> A female freshman was experiencing difficulty learning how to type. A male staff member recommended that her schedule be changed so that she could gain work experience in the cafeteria where there were several female role models. No other vocational opportunities were suggested.

The next most frequently reported set of reasons offers no real surprise. The theme is, "a woman cannot do something because she lacks the ability." This rationale was offered by 14.8 percent of the players. Although some of their allegations are legitimate, absence of ability is also used as an excuse for absence of equity practices. We offer the following examples:

> During the first meeting of a coed physical education class, many boys were outraged. They believed that the class would be ruined by the presence of girls. They did not want to participate in any coed sports activities because they insisted that girls could not play as well as boys could.
>
> In a class debate between a boy and a girl, the girl defended the position that a woman could not be President of the United States. She felt that women are not mentally or emotionally capable of coping with the demands of this office. The boy replied that he knew many women, such as his mother, who were more capable than himself. They were responsible and bright and would make good Presidents.

The frequency of reasons in the "does not work" category accounts for ten percent of the events, and those in the "will not work" category for 11.4 percent. The following two illustrations attempt to show the difference between the events sorted into each category. We recognize that the differences between these two categories are not always clear; usually, some "experience" influences the statement. The young woman who was reluctant to enroll in welding class may have talked about such matters with others who influenced her decision.

From the experience of the female employee, this "does not work:"

> A female carpentry apprentice is experiencing harassment on the job by male employees. She possesses the skills necessary for the job, but is confronted with pornographic materials left at her work station and threats of violence. Her supervisor is sympathetic but reluctant to act against the male employees. The apprentice finds it difficult to remain on the job.

In the following incident, the female student believed that enrolling in a welding class "will not work," although she had never tried:

A mother and daughter were watching television. The daughter expressed interest in signing up for a welding class. She was cautious because no other girls were enrolled. The mother suggested that she discuss the issue with her counselor, but the daughter said no: they would not accept her in the class. She would just forget about welding, but she would not take any "dumb cooking or sewing classes" either.

C. SETTING OF EVENT

The third and final sort of all the incidents used the context in which the event occurred as the frame of reference. In most cases, the settings/environments closely relate to the principal player. More events occurred in an employment setting (47.1 percent) than in the educational setting (36.2 percent). Table IV-3 shows the frequency of events in five types of settings:

TABLE IV-3

Context of Event: Frequency of Appearance

Context	Frequency of Appearance	Percent of Total
1. Educational	54	36.2
2. Occupational	70	47.1
3. Residential	6	4.0
4. Recreational	15	10.0
5. Other	4	2.7
	149	100.0

Educational settings refer to occurrences in the classroom or a counselor's office -- at times a conversation between a staff member and a student or with another staff member. The occupational setting is also obvious -- an event occurred on the job or in an interview situation. Recreational context refers to leisure activities or sports contexts; events may have happened in school, but most occurred outside of school. The parents often talked about events at home (such as the division of household chores) but just as frequently reported on events at school. We exclude more examples because the ones cited on earlier pages convey the sense of this third tier.

D. CROSS-TABULATIONS

The next step was to examine combinations of the three tiers in order to clarify the messages. What could we learn about the needs of specific populations that would focus our search for resources?

First, we looked for the relationship between the reporters of the events and the players these reporters identified, the players being potential targets for interventions. Table IV-4 presents the findings.

TABLE IV-4

Principal Players Identified by Source
(Frequency and Percent of Row Total)

Source and No. of Reporters		Elem Student	Second Student	College Student	Parent	Tchr	Counsel	Admin	School Adults	Other Adults	Employ	No. of Events
I.	Business Community (13)	2 6%	2 6%			3 8%				14 40%	14 40%	35
II.	Parents (18)	7 37%	5 26%		3 16%	3 16%					1 5%	19
III.	Teachers (24)	7 26%	15 56%		1 4%	2 7%			1 4%	1 4%		27
IV.	Counselors (15)		16 64%		2 8%	1 4%	3 12%				3 12%	25
V.	School Administrators (5)		1 17%		1 17%	1 17%		1 17%		1 17%	1 17%	6
VI.	School Staff (5)	2 29%	3 43%							2 29%		7
VII.	Women's Community (8)	4 19%	1 5%	6 28%	3 14%		1 5%			5 24%	1 5%	21
VIII.	Miscellaneous (2)		1				1		1	3	3	9
		22 15%	44 30%	6 4%	10 7%	10 7%	5 3%	1 .7%	2 .1%	26 17%	23 15%	149

Overall, the data show that:

1. The business community talked mainly about itself. The combined totals of employers and non-school adults represent 80 percent of the players who were the subject of their events.

2. Parents reported events concerning their children in 63 percent of the cases, and an equal number about themselves and the teachers (16 percent each).

3. Teachers offered more examples that identified students as the obstacle to equity practices (82 percent).

4. Counselors targeted the secondary students in 64 percent of the incidents, but also colleagues and employers in a few instances.

5. School staff such as secretaries and cafeteria workers generated very little data; most of their reports featured students.

6. The women's community reported events that described colleagues' and student behaviors at the University in addition to a small number referring to young children and their parents.

7. Most of the Miscellaneous events came from the EEOC office, and therefore target the occupational sector in their reports.

We then turned to the players in the incidents to learn what rationales they used that would establish them as people in need of intervention strategies. Table IV-5 shows the outcomes.

TABLE IV-5

Relationship Between Principal Player and Rationale (Frequency and Percent of Row Total)

	PLAYERS	Lacks Ability	Inapp Act	Doesn't Work	Won't Work	No Options	Misc	Total	Percent of 149
1.	Elementary Students	1 5%	12 55%	1 5%		6 27%	2 9%	22	15%
2.	Secondary Students	6 14%	12 27%	4 9%	8 18%	14 32%		44	30%
3.	College Students		2 33%		2 33%	2 33%		6	4%
4.	Parents	2 20%	6 60%	1 10%		1 10%		10	7%
5.	Teachers	3 30%			2 20%	5 50%		10	7%
6.	Counselors		1 20%			4 80%		5	3%
7.	School Admin.		1 100%					1	.7%
8.	Adults/School		2 100%					2	1.3%
9.	Adults/Non-school	5 19%	7 27%	5 19%	2 8%	5 19%	2 8%	26	17%
10.	Employers	5 22%	6 26%	4 17%	3 13%	2 9%	3 13%	23	15%
		22	49	15	17	39	7	149	100%

In general, it seems that:

1. Most of the players believe that certain types of behaviors are inappropriate for females. The elementary students (55 percent) and the parents (60 percent) report this reason far above any other. Employers (26 percent) and adults outside-of-school (27 percent) mention inappropriateness most frequently, but the spread between this and other rationales is smaller than with parents and young children.

2. The students at both elementary and secondary levels do not recognize options available to women. This rationale accounts for 27 and 32 percent, respectively, of the events in which principal players are elementary and secondary students. This rationale accounts for 50 percent of the teachers' reports and 80 percent of the counselors', but the absolute numbers of these players are small.

3. That women lack the ability to perform certain types of tasks or jobs is mentioned by employers (22 percent), the adults outside-of-school (19 percent) and by 14 percent of the secondary students. Once again, although this response is represented by a high percentage of incidents among the parents and teachers, the numbers are very low for these players.

4. The attempt to distinguish between rationales offered on the basis of experience and opinion shows that employers and non-school adults are more apt to base their statements on experience whereas secondary students show a tendency to offer the "won't work" rationale.

E. SUMMARY

The analyses of these data have indicated in broad terms what populations are nonsupportive of educational equity, what rationales are used as a basis for nonsupportive actions, and in what settings these behaviors occur. This information is an important starting point in selecting strategies to promote equity: we know our strategies should focus on both elementary and secondary students, and also on employers; we know that they should be implemented in both educational and occupational settings; and we know that they should focus on dispelling ignorance of options and stereotypes concerning women's abilities and the appropriateness and workability of nontraditional activities.

V. ANALYSIS OF STUDENT RESPONSES

A. WHO SHOULD: K-2

We received a total of 98 usable forms that are characterized as follows:

- students from five classes in two schools are represented;
- of the 53 students for whom ethnic data are recorded, 45 are Anglo and 8 are Mexican-American;
- composition by sex shows 52 males and 46 females; and
- the most represented class is the first grade (70 students), followed by second grade (20) and kindergarten (8).

The questionnaire listed 11 items. Students indicated whether the activity for each item "should" be done by males, females or both. If students chose one sex more than the other, we interpreted the response as suggestive of a stereotype. We viewed a "both" response as neutral. We analyzed the responses by sex and by grade, but we report the findings for the combined K-2 responses because the results by grade are of little significance. We also found the ethnic data of limited value since ethnic identity is indicated for only 54 percent of the responses, and only a very small number of those students are Mexican-American.

Table V-1 shows the distribution of answers by item and by sex. A difference (D) score is obtained by subtracting the percent of boys' (or girls') answers that indicate an activity should be performed by males from the percent of answers that indicate it should be performed by females. The D score provides an index of stereotyping. A plus score suggests a female orientation; a minus score suggests a male orientation. For example, the difference in the percentage of boys who believe that males rather than females can use a hammer better is -80. The D score for the girls is -64. Both boys and girls view this activity as more appropriate for males.

TABLE V-1

Who Should (K-2) Responses by Item by Sex

ITEM:	BOYS Male N	%	Female N	%	Both N	%	D	Total N	GIRLS Male N	%	Female N	%	Both N	%	D	Total N
1. Clean blackboard erasers	8	16	39	78	3	6	+62	50	3	6	36	78	7	15	+72	46
2. Take out trash	27	52	19	36	6	12	-16	52	18	39	21	46	7	15	+ 7	46
3. Do the dishes	3	6	16	31	32	63	+25	51	2	4	15	33	29	63	+29	46
4. Play ball with child	25	49	26	51	0	0	+ 2	51	14	30	26	56	6	13	+26	46
5. Take care of sick child	14	27	19	36	19	36	+ 9	52	1	2	28	61	17	37	+59	46
6. Can use a hammer better	45	88	4	8	2	4	-80	51	37	82	8	18	0	0	-64	45
7. Likes dolls	3	6	2	4	46	90	- 2	51	0	0	6	13	40	87	+13	46
8. Airplane pilot	41	79	10	19	1	2	-60	52	26	56	19	41	1	2	-15	46
9. Doctor	22	42	27	52	3	6	+10	52	15	33	27	60	3	7	+27	45
10. Nurse	5	10	6	12	40	78	+ 2	51	4	9	9	20	33	72	+11	46
11. Race car driver	42	82	8	16	1	2	-66	51	24	52	17	37	5	11	-15	46

In general, when choosing between males and females, both boys and girls tend to respond along traditional lines. They seem to select either males or females as the ones who should perform certain tasks on the basis of their sex. For example, both boys and girls stated that boys could use a hammer better and that males should be airplane pilots. Both sexes prefer girls to clean blackboard erasers.

The results also suggest that in a few instances one sex moves away from a stereotypic response more than the other -- perhaps indicating a degree of enlightenment or progress. The boys favor males as race car drivers, as do many of the girls. But more girls than boys feel that females can be race car drivers, too. The girls are more willing to have females carry trash than the boys. Boys are equally divided about whether males or females should play ball with a child; girls tend to suggest this is a female activity although many see it as a male role. In choosing one

sex over the other to care for a sick child, the girls persist in stereotypic tendencies by overwhelmingly choosing females to perform this duty. The boys slightly favored females for that role, but many chose men. Both sexes are equally likely to designate both males and females as the ones to assume the responsibility of caring for a sick child.

In three of the remaining four items, boys and girls showed the highest preference for both sexes to do the dishes, to like dolls, and to be a nurse. In two of the three cases (dishes and nurse), if claiming the activity for one sex, females were elected.

The difference (D) scores on the doctor item indicate that both girls and boys say that females should be doctors. Few of either sex indicated "both;" each assigned the activity either to a woman or a man.

Table V-2 displays a rank order of the difference scores for boys and girls.

TABLE V-2

RANK-ORDERING OF ITEMS BY SIZE OF D SCORE (K-2)

BOYS		GIRLS	
D (%)	ITEM	D (%)	ITEM
-80	Can use hammer better	-64	Can use hammer better
-66	Race car driver	-15	Race car driver
-60	Airplane pilot	-15	Airplane pilot
-16	Take out trash	+07	Take out trash
-02	Likes dolls	+11	Nurse
+02	Nurse	+13	Likes dolls
+02	Play ball with child	+26	Play ball with child
+09	Care for sick child	+27	Doctor
+10	Doctor	+29	Do dishes
+25	Do dishes	+59	Care for sick child
+62	Clean blackboard erasers	+72	Clean blackboard erasers

This table presents these data in a different way; the items are ordered from high male stereotype to high female stereotype. Several facts are clearly visible from the ordering. First, there is very high agreement between boys and girls in the way items are ordered (rank difference correlation =.95). Second, girls and boys differ in the magnitude of the D scores. The average score for boys is -10.4, indicating a preponderance of "boys should do" responses. The average score for girls is +11.9, showing a preponderance of "girls should do" responses. In every instance where an item reflects a traditional stereotype of "women's work" (e.g. being a nurse, doing dishes, caring for sick child, cleaning erasers) girls show a greater degree of stereotyping than do boys. For traditional male stereotypes (using hammer, being a race car driver or airplane pilot), boys show stronger stereotyping than girls.

For these very young girls, the new feminine role is seen as one which encompasses some traditional male activities in addition to the roles traditionally performed by women.

B. WHO SHOULD: GRADES 3-6

The profile of the students in grades 3-6 who responded to the Who Should questionnaire shows that:

- there are 371 young people represented (183 boys and 188 girls);
- four grades (13 classes) from three schools participated in the survey;
- grade 6 is the most highly represented grade (5 classes), followed by grade 5 (4 classes) and by grades 3 and 4 (two classes each);
- the Anglo population is the highest (77 percent); four other ethnic groups (Mexican-Americans, Blacks, Asians, and American Indians) account for 11 percent of the students; no ethnic data were reported for 12 percent.

The instrument contains 47 items divided into four categories: job suitability (1-19); children's classroom roles (20-25); parental/housekeeping

roles (26-41); and spare time activities (42-47). These students also indicated whether each activity "should" be done by males, females, or both. Predominance of one sex suggests stereotypic tendencies; we interpreted a "both" response as neutral.

Analysis of these data yielded the following:

- responses by grade and sex for each item;
- difference scores (D score) by grade and sex for each item;
- D scores by topical category, by sex, with all grades combined;
- rank ordering of all items by D score according to sex and grade;
- rank ordering of all items by D score by sex, with all grades combined; and
- average scores for "both" responses by topical category, grade, and sex.

We looked at average percentages of "both" responses by category for each sex and grade. These findings paint an overall picture of the direction in which each is moving toward or away from a neutral position. Table V-3 shows the outcome of this analysis:

TABLE V-3

Percent of "Both" Responses

Topical Categories	Grades and Sex							
	3rd		4th		5th		6th	
	M	F	M	F	M	F	M	F
Job Suitability	43	48	36	46	48	61	65	65
Children's Classroom Roles	51	66	50	65	62	70	85	82
Parental/ Housekeeping Roles	40	34	27	36	38	43	58	57
Spare Time	55	53	49	57	63	66	72	75

There is hope. The data suggest that both boys and girls tend to move toward the position that both males and females should have the opportunity to participate in certain types of activities. Our data contain no attribution evidence* so we can make no statements about why these trends emerge, but something is happening.** In general, the data suggest that:

- girls use the "both" category more often than the boys
- agreement between the boys and girls increases as they grow older, reaching total agreement by the sixth grade.

We next present the difference scores by item for boys and girls in grades 3-6 according to each of the four categories. A few examples of some interesting findings are discussed; the reader may use these as a guide for interpreting responses to items of particular interest. From the perspective of selecting equity resources, an item-by-item interpretation is of limited value.

1. Job Suitability. Figure V-1 profiles male and female responses by item and by grade. In the job suitability category, boys and girls express preferences for males or females to fill certain types of jobs. Both sexes believe that forest ranger is a male occupation, although some mellowing of this opinion appears in the higher grades. In third grade, the difference scores for boys and girls are high: -68 and -77 respectively. The boys maintain a high score until sixth grade when they drop to -26: they shift to feeling that both males and females can be forest rangers, but if the job is to be one sex it should be male. The girls change their opinion earlier, in fourth grade, but continue to claim forest ranger as a male occupation. They remain less compromising than the boys in sixth grade.

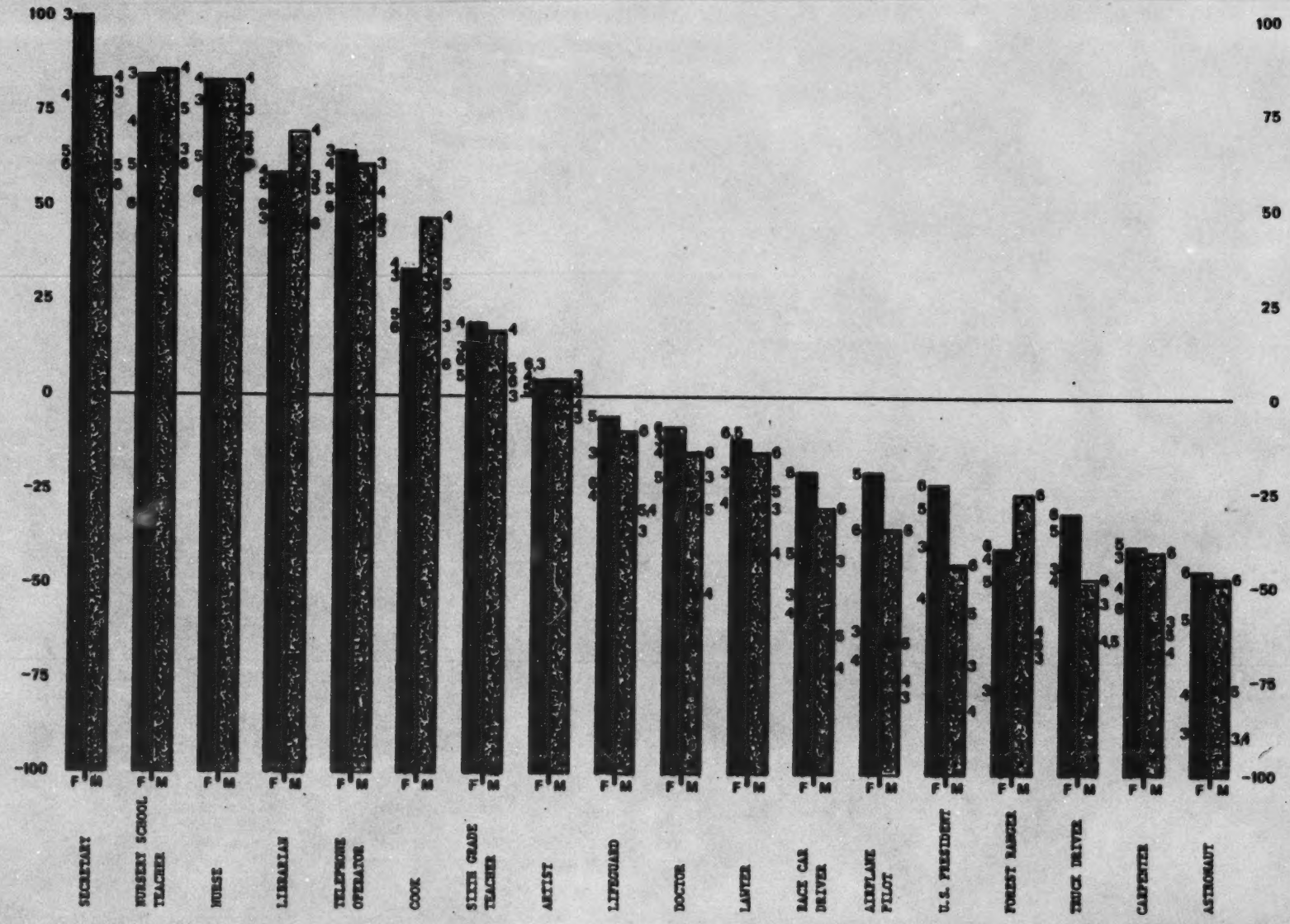
Overall, the correlations between boys and girls is high. Small differences exist between the third grade boys and girls and the sixth grade boys and girls.

---

* These data are not longitudinal. Class composition differs, students experience new influences (teachers, peers' events), and they grow older.

** Some backsliding seemed to occur in fourth grade, but it is not significant in terms of the overall findings.

FIGURE V-1: Job Suitability D Scores by Item, Grade, and Sex



2. Classroom Roles. Table V-4 shows how students feel about responsibility for classroom roles. Many changes are less dramatic in this cluster: except for the role of class president, boys' and girls' opinions are fairly stable from grades 3-6.

In selecting a class president, boys and girls hold different opinions. The boys prefer a male leader during the third, fourth, and fifth grades, but alter their stance in sixth grade. The girls view that role as suitable for both, and in fifth and sixth grades produce a difference score of zero. Class secretary is seen much differently, however, as both boys and girls reserve that role for females.

TABLE V-4

Children's Classroom Roles: Student Responses by Item, Sex, and Grade

THIRD GRADE

ITEM	BOYS M N	BOYS M %	BOYS F N	BOYS F %	BOYS B N	BOYS B %	BOYS TOT N	BOYS DIF %	GIRLS M N	GIRLS M %	GIRLS F N	GIRLS F %	GIRLS B N	GIRLS B %	GIRLS TOT N	GIRLS DIF %
20 MESSENGER	6	21	1	4	21	75	28	-18	0	0	1	4	25	96	26	4
21 CLASS PRESIDENT	17	61	0	0	11	39	28	-61	6	23	5	19	15	58	26	-4
22 ERASER CLEANER	3	11	5	18	20	71	28	7	4	15	1	4	21	81	26	-12
23 CHECK OUT GAME EQUIP	12	44	1	4	14	52	27	-41	3	12	2	8	21	81	26	-4
24 CLASS SECRETARY	2	7	21	75	5	18	28	68	0	0	22	85	4	15	26	85
25 CLASS TREASURER	14	50	0	0	14	50	28	-50	1	4	8	31	17	65	26	27

FOURTH GRADE

ITEM	BOYS M N	BOYS M %	BOYS F N	BOYS F %	BOYS B N	BOYS B %	BOYS TOT N	BOYS DIF %	GIRLS M N	GIRLS M %	GIRLS F N	GIRLS F %	GIRLS B N	GIRLS B %	GIRLS TOT N	GIRLS DIF %
20 MESSENGER	8	22	3	8	25	69	36	-14	1	3	1	3	34	94	36	0
21 CLASS PRESIDENT	17	47	1	3	18	50	36	-44	7	19	4	11	25	69	36	-8
22 ERASER CLEANER	6	17	12	33	18	50	36	17	7	19	4	11	25	69	36	-8
23 CHECK OUT GAME EQUIP	17	47	2	6	17	47	36	-42	5	14	4	11	27	75	36	-3
24 CLASS SECRETARY	1	3	24	67	11	31	36	64	1	3	28	78	7	19	36	75
25 CLASS TREASURER	11	33	5	15	17	52	33	-18	7	20	7	20	21	60	35	0

FIFTH GRADE

ITEM	BOYS M N	BOYS M %	BOYS F N	BOYS F %	BOYS B N	BOYS B %	BOYS TOT N	BOYS DIF %	GIRLS M N	GIRLS M %	GIRLS F N	GIRLS F %	GIRLS B N	GIRLS B %	GIRLS TOT N	GIRLS DIF %
20 MESSENGER	9	17	4	8	39	75	52	-10	3	6	2	4	47	90	52	-2
21 CLASS PRESIDENT	18	34	0	0	35	66	53	-34	5	10	5	10	42	81	52	0
22 ERASER CLEANER	2	4	15	28	36	68	53	25	13	25	5	10	34	65	52	-15
23 CHECK OUT GAME EQUIP	15	29	2	4	35	67	52	-25	9	17	7	13	36	69	52	-4
24 CLASS SECRETARY	1	2	27	51	25	47	53	49	0	0	26	50	26	50	52	50
25 CLASS TREASURER	21	45	3	6	23	49	47	-38	2	4	14	29	32	67	48	25

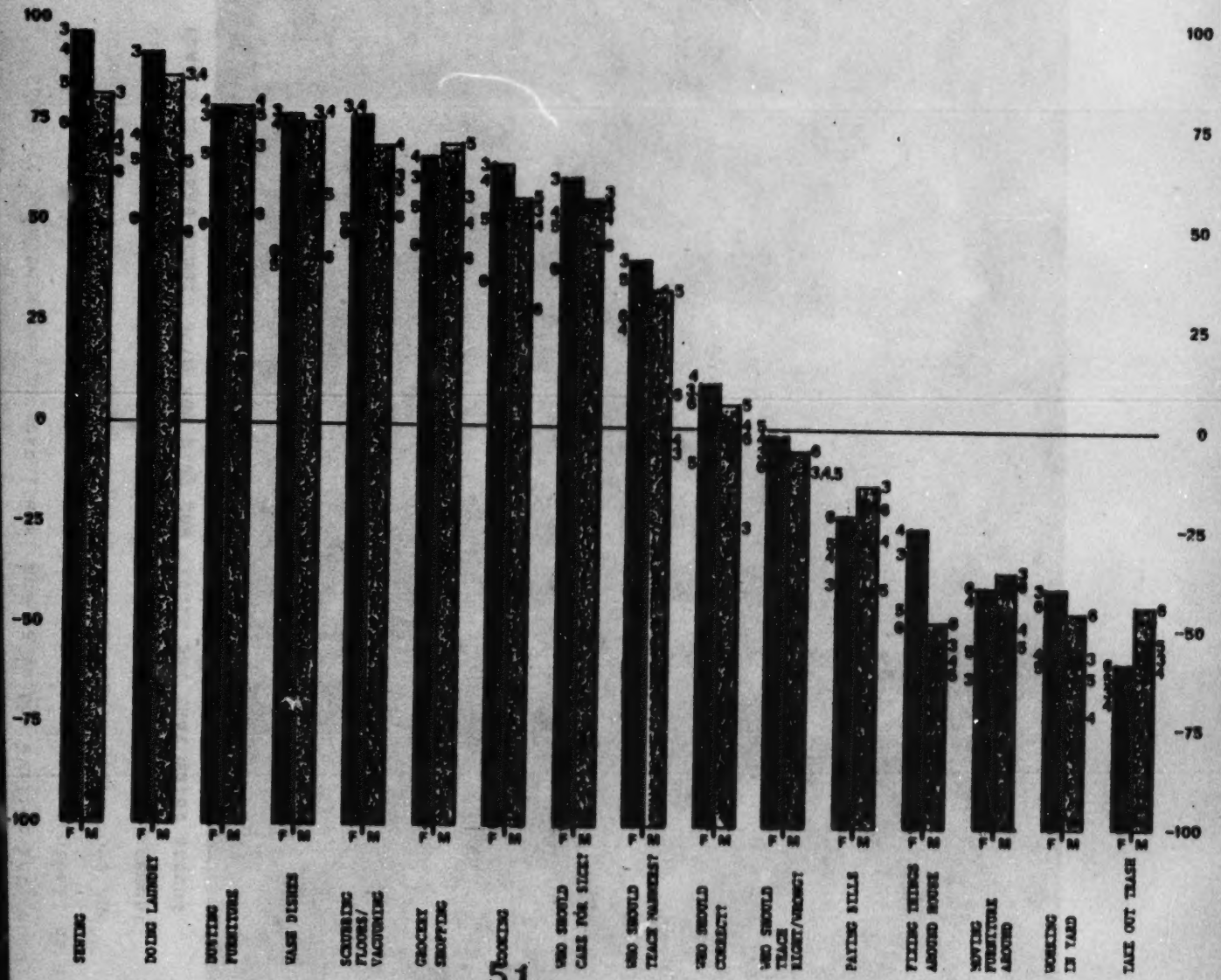
SIXTH GRADE

ITEM	BOYS M N	BOYS M %	BOYS F N	BOYS F %	BOYS B N	BOYS B %	BOYS TOT N	BOYS DIF %	GIRLS M N	GIRLS M %	GIRLS F N	GIRLS F %	GIRLS B N	GIRLS B %	GIRLS TOT N	GIRLS DIF %
20 MESSENGER	1	2	0	0	65	98	66	-2	0	0	4	5	70	95	74	5
21 CLASS PRESIDENT	7	11	2	3	57	86	66	-8	3	4	3	4	68	92	74	0
22 ERASER CLEANER	2	3	10	15	54	82	66	12	14	19	3	4	57	77	74	-15
23 CHECK OUT GAME EQUIP	13	20	2	3	51	77	66	-17	6	8	3	4	65	88	74	-4
24 CLASS SECRETARY	1	2	14	21	51	77	66	20	0	0	29	39	45	61	74	39
25 CLASS TREASURER	5	8	1	2	57	90	63	-6	5	7	11	15	57	78	73	8

3. Parental/Housekeeping Roles. Figure V-2 shows the breakdown of student responses to the 16 items that comprise the parental/housekeeping category. In general, boys and girls show a strong tendency to maintain stereotypic roles in the home. Although they begin to shift toward neutral positions in the sixth grade, they are not really out of the traditional sex role boxes. For example, both boys and girls choose females to care for the sick, wash dishes, dust the furniture, scrub floors, and sew. The students show limited gains in grocery shopping, cooking, and doing the laundry when they are sixth graders, but they still assign these tasks to the females of the world. All students agree that males should take out the trash, move furniture, and work in the yard, but they also begin a shift toward "both" in the sixth grade.

Responsibility for instilling social graces and moral values falls on both males and females, according to the responses of the 3-6 students. In general, low difference scores suggest that students in grades 3-6 show no strong preferences for males or females in these roles.

FIGURE V-2: Parental/Housekeeping D Scores by Item, Grade, and Sex



4. Spare Time Activities. Table V-5 shows student opinions about spare time activities.

Students seem to agree on most items, and as in the earlier set, some stereotypic tendencies appear. For example, both sexes view football as a male sport although the fifth grade girls and the sixth grade boys and girls say that both males and females should play. There is agreement that both sexes should swim and play the violin but that males attend sports events and females perform gymnastics.

TABLE V-5

Spare Time Activities: Student Responses by Item, Sex, and Grade

THIRD GRADE

ITEM	BOYS M		BOYS F		BOYS B		BOYS TOT	BOYS DIF	GIRLS M		GIRLS F		GIRLS B		GIRLS TOT	GIRLS DIF
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
42 PLAYING FOOTBALL	24	86	0	0	4	14	28	-86	22	85	0	0	4	15	26	-85
43 SWIMMING	0	0	1	4	27	96	28	4	0	0	4	15	22	85	26	15
44 PLAYING THE VIOLIN	5	18	6	21	17	61	28	4	4	15	4	15	18	69	26	0
45 GOING TO SPORTS GAMES	12	43	0	0	16	57	28	-43	8	31	0	0	18	69	26	-31
46 GYMNASTICS	0	0	17	61	11	39	28	61	0	0	21	81	5	19	26	81
47 HELPING IN HOSPITAL	1	4	10	36	17	61	28	32	0	0	10	38	16	62	26	38

FOURTH GRADE

ITEM	BOYS M		BOYS F		BOYS B		BOYS TOT	BOYS DIF	GIRLS M		GIRLS F		GIRLS B		GIRLS TOT	GIRLS DIF
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
42 PLAYING FOOTBALL	31	86	1	3	4	11	36	-83	31	86	0	0	5	14	36	-86
43 SWIMMING	2	6	4	11	30	83	36	6	0	0	3	8	33	92	36	8
44 PLAYING THE VIOLIN	7	19	6	17	23	64	36	-3	2	6	5	14	29	81	36	8
45 GOING TO SPORTS GAMES	18	50	1	3	17	47	36	-47	17	47	0	0	19	53	36	-47
46 GYMNASTICS	4	11	17	49	14	40	35	37	1	3	21	58	14	39	36	56
47 HELPING IN HOSPITAL	3	8	15	42	18	50	36	33	0	0	12	33	24	67	36	33

FIFTH GRADE

ITEM	BOYS M		BOYS F		BOYS B		BOYS TOT	BOYS DIF	GIRLS M		GIRLS F		GIRLS B		GIRLS TOT	GIRLS DIF
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
42 PLAYING FOOTBALL	42	79	0	0	11	21	53	-79	33	65	1	2	17	33	51	-63
43 SWIMMING	0	0	1	2	52	98	53	2	1	2	4	8	47	90	52	6
44 PLAYING THE VIOLIN	1	2	6	11	46	87	53	9	3	6	5	10	44	85	52	4
45 GOING TO SPORTS GAMES	14	26	1	2	38	72	53	-25	15	29	4	8	33	63	52	-21
46 GYMNASTICS	2	4	30	57	21	40	53	53	1	2	25	49	25	49	51	47
47 HELPING IN HOSPITAL	0	0	22	42	31	58	53	42	0	0	14	27	38	73	52	27

SIXTH GRADE

ITEM	BOYS M		BOYS F		BOYS B		BOYS TOT	BOYS DIF	GIRLS M		GIRLS F		GIRLS B		GIRLS TOT	GIRLS DIF
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
42 PLAYING FOOTBALL	36	55	0	0	30	45	66	-55	30	41	2	3	42	57	74	-38
43 SWIMMING	1	2	5	8	60	91	66	6	0	0	1	1	73	99	74	1
44 PLAYING THE VIOLIN	0	0	3	5	63	95	66	5	1	1	9	12	64	86	74	11
45 GOING TO SPORTS GAMES	13	20	0	0	53	80	66	-20	14	19	0	0	60	81	74	-19
46 GYMNASTICS	1	2	29	44	36	55	66	42	0	0	31	42	43	58	74	42
47 HELPING IN HOSPITAL	1	2	23	35	41	63	65	34	1	1	22	30	51	69	74	28

C. QUESTIONNAIRE RESULTS: GRADES 7-12

Student responses for grades 7-12 totaled 555, almost fifty percent of the entire student sample:

- the breakdown by sex shows 251 males (45 percent) and 302 females (55 percent);
- four junior high schools and five senior high schools are represented among these six grades;
- the most represented grades are seventh, with 170 students (31 percent), tenth with 174 students (31 percent), and eleventh with 108 students (19 percent); each of the remaining grades represents less than 10 percent of the 555;*
- five ethnic cultures participated: 269 (48 percent) are Anglos; 111 (20 percent) are Mexican-Americans; 14 (2.5 percent) are Blacks; Asians and Indians each numbered three (.5 percent); and
- ethnic data are not available for 256 (28 percent) of the students.

The students responded to a questionnaire consisting of 39 items divided into five categories of information:

1. student experience in considering enrollment in nontraditional classes (five items) which required a yes or no answer;
2. factors that helped them to enroll (six items) that were rated very helpful, helpful, or not helpful;
3. factors that hindered their enrollment (seven items) that were rated very difficult, difficult, or not difficult;
4. classes or programs in which students are or might be interested (11 items) which required a yes or no answer or an indication of whether a program-in-place existed in the school; and
5. suitability of occupations by sex (10 items) which required a choice of M, F, or both.

---

* There were so few ninth grade respondents that there are no ninth grade data for some of the tables in this chapter.

We analyzed the responses by sex, grade, and ethnicity, using Mexican-American as the basis for cultural distinction. The other non-Anglo cultures are too underrepresented to generate useful information. The data on Mexican-American students are not consistently revealing and are reported here only when representation is substantial enough to be of some value.

The findings for each set of items are discussed on the following pages.

1. Class Enrollment.

Item: Have you ever thought about signing up for a class or program that has all or almost all students of the opposite sex in it?

A total of 550 students responded. The data show that:

- more females than males had considered taking nontraditional classes (52 percent and 33 percent respectively);
- among Mexican-Americans more females than males considered signing up (52 percent and 22 percent respectively);
- high school students tend to favor enrollment (40 percent of the males and 58 percent of the females) more than junior high school students (17 percent of the males and 43 percent of the females); and
- Mexican-American junior high females (50 percent) are more likely to consider nontraditional classes than their Anglo counterparts (35 percent).

Table V-6 shows the responses for each grade by sex and by ethnicity.

TABLE V-6

Have You Ever Thought About Signing Up for a Class . . . That Has All or Almost All Students of the Opposite Sex in It?

ALL GRADES COMBINED

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
43	36	76	64	119	72	49	74	51	146	10	22	36	78	46	33	52	30	48	63	81	33	168	67	249	156	52	145	48	301

SEVENTH GRADERS

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
4	13	27	87	31	10	24	31	76	41	6	17	29	83	35	25	51	24	49	49	11	15	61	85	72	37	38	60	62	97

EIGHTH GRADERS

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
2	50	2	50	4	9	69	4	31	13	1	100	0	0	1	1	33	2	67	3	4	29	10	71	14	12	67	6	33	18

NINTH GRADERS

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
5	50	5	50	10	1	11	8	89	9	0	0	0	0	0	0	0	1	100	1	5	50	5	50	10	4	20	16	80	20

TENTH GRADERS

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
12	27	32	73	44	33	60	22	40	55	0	0	0	0	0	2	100	0	0	2	26	33	54	67	80	59	64	33	36	92

ELEVENTH GRADERS

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
14	58	10	42	24	14	61	9	39	23	3	33	6	67	9	2	50	2	50	4	25	46	30	54	55	29	56	23	44	52

TWELFTH GRADERS

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE					FEMALE					MALE					FEMALE					MALE					FEMALE				
YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT	YES		NO		TOT
N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N	N	%	N	%	N
6	100	0	0	6	5	100	0	0	5	0	0	1	100	1	3	75	1	25	4	10	56	8	44	18	15	68	7	32	22

Item: What class or program was it?

Students wrote in their choices. Of the total student population sampled, 206 (37 percent) responded. They can be further characterized as:

141 (68 percent) females
65 (32 percent) males

and

60 (29 percent) junior high students
146 (71 percent) senior high students.

Table V-7 reveals their preferences.

TABLE V-7

What Class Did You Consider Signing Up For?

CATEGORY	Males N	Males PCT*	Females N	Females PCT	Total N	Total PCT
Industrial Arts (e.g., wood shop, auto mechanics, printing, etc.)	4	2	76	37	80	39
Homemaking/Secretarial (e.g., cooking, sewing, typing, child development)	45	22	1	.5	46	22.5
Sports (e.g., weight training, football, co-educational team games)	14	7	55	27	69	33
Recreational and Other (e.g., chorus, clubs, driver education)	2	1	9	4	11	5
	65	32	141	68.5	206	99.5

*All percents are expressed in terms of the total of 206.

The responses show that:

- there is a strong female interest in traditionally male industrial arts such as wood shop (16 percent of the 206 classes mentioned), auto mechanics (9 percent), and welding/metals (6 percent); these accounted for 39 percent of all classes mentioned;

- males show a somewhat smaller inclination toward female-dominated classes such as cooking and typing (22 percent);
- females (27 percent) were interested in sports activities such as football and weight training; and
- academic classes do not appear among the answers to this open-ended question.

Item: Did someone encourage you to sign up?

If the answer was yes, the students indicated who provided the support. The total number of responses was about 157 (some students checked more than one encourager). The outcomes appear below:

TABLE V-8

Who Encouraged You? All Grades Combined

	MALE RESPONDENTS						FEMALE RESPONDENTS						TOTAL SAMPLE					
ENCOURAGER	ANGLO		MEX-AMER		ALL		ANGLO		MEX-AMER		ALL		ANGLO		MEX-AMER		ALL	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MOTHER	2	14	2	33	5	16	6	16	4	17	12	13	8	15	6	20	17	13
FATHER	1	7	1	17	2	7	11	29	5	21	25	26	12	23	6	20	27	21
BROTHER	2	14	0	0	2	7	6	16	4	17	11	12	8	15	4	13	13	10
SISTER	2	14	3	50	5	16	2	5	9	38	12	13	4	7	12	40	17	13
FRIEND	6	43	2	33	16	52	19	50	9	38	50	52	25	48	11	37	66	52
TEACHER	1	7	0	0	4	13	4	11	2	8	7	7	5	10	2	7	11	9
COUNSELOR	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
OTHER	0	0	0	0	0	0	0	0	4	17	4	4	0	0	4	13	4	3

The most frequently reported supporter was a friend, according to 52 percent of the responses. Father accounted for 21 percent, and sister and mother were each cited as supporters by 13 percent of the students. The remaining persons on the list were brother, teacher, and counselor, each of whom received less than 10 percent of the votes cast.

Item: Did anyone discourage you from signing up?

Responses to this item were very low. Table V-9 shows the combined outcomes. Again, friends receive the majority of the votes (52 percent) as discouragers. They are followed by mother, with 32 percent.

TABLE V-9

Who Discouraged You? All Grades Combined

	MALE RESPONDENTS						FEMALE RESPONDENTS						TOTAL SAMPLE					
DISCOURAGER	ANGLO		MEX-AMER		ALL		ANGLO		MEX-AMER		ALL		ANGLO		MEX-AMER		ALL	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
MOTHER	1	7	1	25	2	8	12	52	4	50	19	45	13	35	5	42	21	32
FATHER	1	7	0	0	1	4	6	26	1	13	8	19	7	19	1	8	9	13
BROTHER	0	0	1	25	1	4	2	9	3	38	5	12	2	5	4	33	6	9
SISTER	0	0	0	0	0	0	4	17	1	13	5	12	4	11	1	8	5	8
FRIEND	8	57	2	50	16	67	9	39	2	25	18	43	17	46	4	33	34	52
TEACHER	3	21	0	0	3	13	2	9	1	13	3	7	5	14	1	8	6	9
COUNSELOR	0	0	0	0	0	0	2	9	1	13	3	7	2	5	1	8	3	5
OTHER	1	7	1	25	2	8	0	0	0	0	0	0	1	3	1	8	2	3

Item: Did you sign up (for a class in which most of the students are members of the opposite sex)?

TABLE V-10

Did You Sign Up? All Grades Combined

IDENTIFIED WHITE										IDENTIFIED MEXICAN-AMERICAN										TOTAL SAMPLE									
MALE						FEMALE				MALE						FEMALE				MALE						FEMALE			
YES		NO		TOT		YES		NO		TOT		YES		NO		TOT		YES		NO		TOT		YES		NO		TOT	
N	%	N	%	N		N	%	N	%	N		N	%	N	%	N		N	%	N	%	N		N	%	N	%	N	
26	62	16	38	42		34	49	36	51	70		3	30	7	70	10		16	50	16	50	32		47	60	31	40	78		82	54	70	46	152	

Those who answered (230 or 42 percent) revealed that:

- Mexican-American females (50 percent) and their Anglo counterparts (49 percent) showed similar tendencies to enroll, but
- Mexican-American males (30 percent) were less likely to sign up than were their Anglo counterparts (62 percent).

Those who explained why they signed up (128) stated that they wanted to. A few revealed that no other classes were available, or that friends had enrolled in those classes.

The students who gave reasons for not signing up (101) most often stated that they preferred another class or no room was left in their schedule. About 25 percent of the females said they were reluctant to enroll in a nontraditional class because their friends discouraged them or they felt awkward.

2. Helpers. Four hundred and eighty-four students indicated what would help them most in signing up for a class that was not usually taken by someone of their sex. They checked "very helpful," "helpful," and "not helpful." Table V-11 below shows the outcomes of their responses. The very helpful and helpful scores were combined to show preferred sources.

TABLE V-11

Preferred Sources of Help by Grade and Sex
(Percent of Respondents)

Grade:	7		8		9		10		11		12	
HELPER	M	F	M	F	M	F	M	F	M	F	M	F
Friends	73	80	53	100	0	0	63	79	55	71	73	81
Teachers	87	83	69	75	0	0	83	85	77	89	83	100
Counselors	85	83	61	75	0	0	77	69	72	80	70	86
Parents	80	80	77	92	0	0	33	67	65	66	59	71
Other Students in Class	77	75	69	75	0	0	78	84	77	86	59	85
N	67	93	13	12	0	0	78	84	53	45	17	21

Overall, these data show that:

- seventh graders would like help from all sources;
- teachers are preferred sources of help across all grades;
- friends, counselors, and parents decline as preferred helpers from grade 7 to grade 11.

The aggregated data for all ethnic students in grades 7-12 are shown below:

TABLE V-12

Sources of Help: All Grades

SOURCE OF HELP	MALES							FEMALES							BOTH SEXES						
	VERY		HELP.		NOT		TOT	VERY		HELP.		NOT		TOT	VERY		HELP.		NOT		TOT
	N	%	N	%	N	%	N	N	%	N	%	N	%	N	N	%	N	%	N	%	N
1 FRIENDS	32	14	117	51	81	35	230	43	17	158	62	53	21	254	75	15	275	57	134	28	484
2 TEACHER	61	27	126	55	42	18	229	101	40	116	46	37	15	254	162	34	242	50	79	16	483
3 COUNSELOR	58	25	118	52	53	23	229	81	32	117	46	57	22	255	139	29	235	49	110	23	484
4 PARENTS	43	19	121	54	60	27	224	69	27	117	46	67	26	253	112	23	238	50	127	27	477
5 OTHERS DOING SAME	69	31	102	45	55	24	226	101	40	104	41	48	19	253	170	35	206	43	103	22	479

The greatest preferred sources of help to students are the teachers and other students of the same sex who are taking the class.

The open-ended item required students to offer ideas of anything else that might be helpful. Those students who responded (117) produced little new information -- about one half of them replied that they would like support or encouragement from others before registering for a nontraditional class.

3. Obstacles. Here students considered some of the difficulties they might encounter if they wanted to take a class usually taken by someone of the opposite sex. They indicated a range of difficulty for each of six items. The combined results for all grades are presented below.

TABLE V-13

Perceived Obstacles to Signing Up for a Nontraditional Class: Percent of Responses

REASONS	Males %	Males N	Females %	Females N	Total N
School Regulations	66	233	67	278	511
Friends Make Fun	62	236	51	280	576
Parents Dislike the Idea	60	235	52	278	513
Teachers Advise Against	48	235	45	279	514
Counselor Advises Against	52	237	47	280	517
Other Students Hassle	70	234	70	273	507

The main messages from these data are that:

- male and female students generally agree on the obstacles;
- the one exception to the above is that females indicate less difficulty with their friends than the males;
- fewer students view teachers and counselors as obstacles; and
- both males and females cite other students in the class who may give them a hard time as the strongest obstacle.

A very low number (53) of the students responded to the open-ended item that asked students to think of other problems they are likely to encounter. Most of the answers focus on socializing and adjustment concerns -- felt embarrassed, did not want to be in a class without friends, absence of acceptance by others in the class.

4. Programs You Might Choose offers students an opportunity to suggest what types of classes or programs they would like to include in the schedule. They may also indicate whether or not a program is already available. Once again, we combined the results by grade, as shown below.

TABLE V-14

Programs You Might Choose: All Grades

PROGRAM TYPE	MALES							FEMALES							BOTH SEXES						
	YES		NO		HAVE		TOT	YES		NO		HAVE		TOT	YES		NO		HAVE		TOT
	N	%	N	%	N	%	N	N	%	N	%	N	%	N	N	%	N	%	N	%	N
1 EMPHASIZE GIRL TEAM	57	23	32	13	155	64	244	97	33	13	4	182	62	292	154	29	45	8	337	63	536
2 CAREER INFORMATION	87	36	123	51	33	14	243	165	56	84	29	44	15	293	252	47	207	39	77	14	536
3 CLASS INFORMATION	98	40	100	41	45	19	243	171	59	83	28	38	13	292	269	50	183	34	83	16	535
4 TALK TO STUDENTS	119	49	89	37	35	14	243	188	64	61	21	43	15	292	307	57	150	28	78	15	535
5 TALK CAREER PEOPLE	126	53	81	34	32	13	239	202	69	51	18	38	13	291	328	62	132	25	70	13	530
6 CAR CARE CLASSES	86	36	36	15	120	50	242	115	39	46	16	132	45	293	201	38	82	15	252	47	535
7 HOME REPAIR CLASSES	129	53	44	18	71	29	244	167	58	58	20	65	22	290	296	55	102	19	136	25	534
8 HOME ECON CLASSES	57	24	19	8	162	68	238	69	24	16	6	204	71	289	126	24	35	7	366	69	527
9 CHILD CARE CLASSES	100	41	84	35	59	24	243	143	49	47	16	100	34	290	243	46	131	25	159	30	533
10 CLASS ACTIVITIES	105	44	87	36	48	20	240	165	57	69	24	55	19	289	270	51	156	29	103	19	529

More than one-half of the females indicated a desire for the following programs:

- career information on jobs usually filled by people of the opposite sex and how a student could be trained for one (55 percent);
- more information on classes usually taken by people of the opposite sex and how one could enroll (61 percent);
- opportunities to talk to people already enrolled in nontraditional classes (65 percent);
- opportunities to talk to people who are in nontraditional careers (68 percent);
- home repair classes for all students (56 percent);
- child care classes for all students (50 percent); and
- classroom activities that discuss the changing role of men and women in our society (58 percent).

Of the activities cited by the females, the males agreed that three of them ought to be offered in school: opportunities to meet with individuals in nontraditional occupations (50 percent); opportunities to meet with individuals in nontraditional career paths (53 percent); and home repair classes for all students (54 percent).

The males and females agree on which programs the schools currently offer:

- increased emphasis on girls' athletic teams (62 percent);
- classes in basic car care available to all students (46 percent); and
- home economics classes for all students (69 percent).

The open-ended item asked students what programs they would offer. Only 90 responded, but of those, 35 elected to learn more about sex education, marriage, and parenting. Another category of interest was sports: increased options for participatory sports. The remainder of the suggestions is a mixed bag -- courses in sociology, psychology, or child development.

5. Job Suitability. This set of items closely resembles the "who should" format administered to the younger students. Students were asked to select which sex (or both) they deemed appropriate for certain jobs. Their neutral ("both") responses appear on the following table.

TABLE V-15

Job Suitability: All Grades by Sex
(Percent of "Both" Responses)

	7		8		9		10		11		12	
JOB:	M	F	M	F	M	F	M	F	M	F	M	F
Artist	94	98	100	100	0	0	96	99	98	100	89	100
Carpenter	34	37	29	83	0	0	39	67	54	77	39	77
Doctor	78	89	64	94	0	0	77	99	87	96	94	95
Auto Mechanic	34	48	36	61	0	0	32	80	56	73	50	76
Elementary Teacher	78	86	71	94	0	0	77	95	79	92	78	91
Typist	53	56	36	72	0	0	35	83	35	75	39	50
Homemaker (Full-Time)	31	40	21	71	0	0	76	61	36	62	28	45
Truck Driver	49	69	21	83	0	0	48	76	58	87	61	64
Company President	72	74	50	89	0	0	65	90	73	88	67	91
Nurse	27	46	14	61	0	0	39	76	40	75	44	86
Number	71	94	14	18	0	0	80	92	52	52	18	22

The trends shown suggest that:

- for most of the professions, students of both sexes view the jobs as appropriate for men and women;
- both male and female students from grades 7 - 12 agree that both sexes can be artists, elementary teachers, and doctors;
- both seventh grade males and females believe that males should be carpenters; the males show little change, but the females indicate a willingness for females to move into the occupation;
- males claim auto mechanics as a male trade until grades 11 and 12, when they begin to accept females; females claim representation in the area beginning with eighth grade;

- male students reveal stereotypic tendencies with regard to typing. In the seventh grade, one-half agree that it is a job suitable for both sexes. But then the respondents move in opposite directions -- males begin to treat it as a women's occupation and the females expand their horizons to consider it a job for both sexes;

- homemaking remains a female occupation, especially from the male perspective. Females begin to view it as a job for both sexes in the tenth and eleventh grades;

- both males and females are increasingly willing to accept females as truck drivers; and

- females support women as company presidents and nurses, but the males do not quite keep up, especially with regard to the nursing profession.

D. SUMMARY

The results of these surveys reveal two major types of needs that an equity program must address: first, awareness that roles assigned on the basis of sex are often unfair and inappropriate; and second, that support systems must be developed to help students move from awareness to action in nontraditional activities. The data are somewhat mixed as to what support systems might be most effective, suggesting that individual differences play a large part. Therefore, it is important that peer support, school staff support, and non-school adult support (both parent and employer) be promoted as much as possible. The program for educational equity that we develop will attempt to address all these approaches.

These voluminous results are summarized in the next chapter. We also discuss some directions for materials selection that emerge from the findings.

VI. SUMMARY AND IMPLICATIONS

In preceding chapters we have reported findings from several lines of inquiry, each focused on some aspect of sex equity in the Tucson schools. In reviewing these findings, it is important to keep in mind the very limited purpose of the exercise. Our sole objective was to identify areas of need that must be addressed in the design and implementation of a national demonstration. We were not concerned with a normative assessment (which would compare Tucson to other cities) nor with a complete portrait (which would feature strengths as well as needs). With this caveat in mind, we may summarize our findings as indicating four general areas of need. We found evidence of:

- imbalance in enrollments; women were underrepresented in both academic and vocational courses that serve as prerequisites for many higher paying jobs;
- persistence of stereotypic role perceptions, especially among elementary students, but also present among junior and senior high school students;
- perceptions among high school women of inequities in athletic opportunities and other aspects of the school program; and
- reluctance of women students to actually enroll in nontraditional courses, even when they expressed a desire to do so.

What are the implications of these findings for the design of the demonstration? What elements must be included? What follows is a minimal list of programmatic requirements derived from a conservative interpretation of the data.

1. Activities/materials designed to <u>increase awareness of sex-stereotyping</u> among students. At the elementary level, the need is for classroom materials that will expand horizons, introduce new roles for women, and provide opportunities for active participation in discussions, role playing, and the like. In moving through the grades, the awareness program should progress from a classroom-centered program to one that features out-of-school activities involving direct contact with employers and with employed women.

2. Activities/materials designed to increase faculty sensitivity to equity issues. All school staff (teachers, administrators, counselors, librarians, non-certified employees) should participate in awareness activities, which might be incorporated into pre-service and in-service training programs.

3. Activities/materials/programs designed to create moral support for students desiring a nontraditional program. Important sources of support (or non-support) include parents, peers, school staff, and employers. Programs are needed to involve the out-of-school sources (parents and employers), and these will be more difficult to establish and maintain than the in-school programs. Some attention might be given the creation of mutual support groups of peers.

4. Activities/materials/programs designed to create incentives for exploring and choosing nontraditional programs. Both in-school and out-of-school incentives are needed, and again, the developmental task is a demanding one. Social incentives may be manipulable in school; features in school newspapers offer one possibility. Economic incentives for exploration are not likely, but exploration itself fosters awareness of the economic advantages of entering nontraditional fields of endeavor.

5. Activities/materials designed to increase women's self-confidence in their abilities. The school setting offers multitudes of opportunities for confidence-building, but they are not so organized as to offer a systematic sequence of experiences for women who need such development. The program should include both formal and informal elements.

6. Activities/materials designed to develop coping skills for women in nontraditional settings. Women need practice in adjusting to difficult situations (settings traditionally limited to males), both in and out-of-school. Both knowledge development and practice in dealing with emotionally stressful situations should be included. Again, mutual support groups might be helpful.

7. Activities/materials designed to increase parental and community involvement in furthering sex equity. These programs should go beyond the development of support (item 3 above) and must be directed to creating community networks that are actively involved in promoting equity. The school's role is to energize these networks through active school-community interactions, so that school and non-school programs will be mutually reinforcing.

8. Planning activities to increase opportunities for women to participate in athletics and other school programs. The school staff should examine in detail the real and/or perceived bases for dissatisfaction among women students and follow through with corrective action where needed.

The results of the needs assessment will guide us in designing the national demonstration. The next steps are to:

- select the school staff members, the schools, and the classes that will participate in the implementation of equity resources;
- identify potential equity resources and present them to the panels for review and selection; and
- construct a detailed evaluation and implementation plan for the entire three-year demonstration.

In conducting these activities, we are working with many of the individuals who participated in the needs assessment: teachers, principals, district administrative staff, parents, employers and community groups.

APPENDIX A: QUESTIONS FOR ELICITING CRITICAL INCIDENTS

Questions for Critical Incident Study
Pima County Unified School District #1

80901
November 1979

1. Think about a recent conversation regarding career preferences, career planning, or educational aspirations you had with a female student that made you feel she was (or was not) limiting her options to traditional female occupations.

2. Think about a time when you had a conversation about class selection with a female student that made you think she preferred (or did not prefer) to enroll in a class typically underpopulated by girls.

3. Think of a recent time when you (a) observed two or more students interacting, or (b) participated in a student group discussion, and you felt there was peer support (or nonsupport) for one student's choice of an occupation or class in which the opposite sex was usually dominant.

4. Think of the last time you observed a student interacting with someone and that person's comments/actions reinforced (or dispelled) traditional sex-role perceptions.

5. Think of a recent occasion when you spoke to an employer about females working in a nontraditional occupation, and you felt that the individual would (or would not) consider hiring females.

6. Think of a recent occurrence when you talked with a woman who was (was not) hired for a nontraditional job.

7. Think of a time when you experienced difficulty (or success) in placing a female student in a nontraditional occupation.

8. Think of the last time you taught a class that is usually considered traditional for one sex (e.g. homemaking, shop, or a varsity sport), when you felt there was support (or nonsupport) for participation from students of the opposite sex.

9. Think of a recent time when an event occurred in your firm that made you feel there is (or is not) a future for women in this occupation. The occurrence could involve recruiting, hiring, training, job performance, or termination.

10. Think of a recent time when you, as a member of this group, participated in a group-sponsored activity with young people. Was there an activity when you felt that males or females were being limited (or being giving opportunities) to become involved?

11. Think of the last time you attended a meeting of your community group when student activities were discussed, and you felt that males and/or females were limited to activities traditional for their sex. Can you think of a time when males and/or females were encouraged to participate in activities nontraditional to their sex?

12. Do you serve in an advisory capacity to a local school, district or county educational group? If so, think of a recent occasion during a meeting when you thought that males and females were not given equal consideration to participation in a planned activity?

13. Think about a recent conversation you had with a son(s) or daughter(s) concerning a forthcoming choice of classes, part-time work, or career.

14. Think about a recent occasion when one of your children chose among numerous school sports or physical education activities.

15. Think about a recent time when you and your child (or children) decided who would be responsible for certain household tasks.

All items will be followed by these probes -- with some language variations.

Describe what happened. (e.g. participants, student grade level, sex, when and where did the event occur, who said what to whom, etc.) Use no real names.

How did the event come about? (e.g. casus, informal conversation, planned meeting, scheduled interview etc.)

Was there an immediate outcome to this event? (e.g. student action, employee made decision, etc.)

Do you see any long term implication to this occurrence?

The table below identifies appropriate items by type of respondent. Please offer suggestions and comments.

	ITEMS															
RESPONDENTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Teachers	x	x	x	x				x								
Counselors				x	x	x	x					x				
Employers	x						x		x							
Community groups									x	x	x	x				
Women's groups	x	x		x								x				
Parents										x	x	x	x	x	x	
Students		x					x						x	x		
School admin	x	x	x								x	x	x			
School staff		x	x										x	x		

APPENDIX B: STUDENT SURVEY INSTRUMENTS

INSTRUCTIONS FOR ADMINISTERING THE "WHO SHOULD" QUESTIONNAIRE (Grades K-2)

I. General Instructions This questionnaire is designed to yield information about Kindergarten, first and second graders' perceptions of job and work role responsibility. It contains lists of several jobs which are done in American society, in school and at home. The children are asked to indicate, after each job, whether they think that job should be done by men, women, or both sexes.

It is very important that the children understand the directions for this questionnaire because it is doubtful that they have ever been asked to respond to questions of this sort. Some suggested steps for teachers to follow to insure good responses are discussed in the section below.

II. Instructions for Giving the Questionnaire

1. Instructions for the questionnaire are on the attached sheet called "Instructions to the Teacher." Make sure you review the instructions and the questionnaire for yourself before administering it to your class.
2. Read the instructions aloud to your students. Read slowly, stress important points, and try to stay as close to the script as possible in order to keep instructions constant for all K-2 classrooms.
3. Be sure to use the same neutral tone of voice when you read each question. A disapproving tone or a sympathetic one can influence a child's response.
4. If students are able, have them write their school and grade at the top of their answer sheets. If not, write this information on each sheet as you collect it. Also circle the proper ethnic classification as you collect each sheet.

III. Ethnic Identification As you collect the student answer sheets, circle the proper ethnic classification at the top according to the following code:

Ethnic Classifications
(E.C. on the test heading)

B - Black (not Hispanic)
I - American Indian or Alaskan Native
A - Asian/Pacific Islander
H - Hispanic (Spanish origin or culture)
W - White/Caucasian

This ethnic classification is intended to be an "eyeball" identification done by the teacher. YOU SHOULD NOT, UNDER ANY CIRCUMSTANCES, DIRECTLY ASK A STUDENT TO WHAT ETHNIC GROUP HE OR SHE BELONGS; THIS COULD BE A VIOLATION OF FEDERAL LAW. When in doubt as to what ethnic group a student may belong, simply make a "best guess."

IV. Scoring Scoring the "Who Should" questionnaire is simple. Count the number of times the student circled both the boy and girl and put the total number at the top of the answer sheet. If you have time to do this for your class it would be greatly appreciated. Then put the questionnaires in the pre-addressed, postage-paid envelope and mail them back to AIR.

"WHO SHOULD"

Grades K-2

Instructions to the Teacher

1. Before the session, draw on the board a picture of a boy, a girl, and a boy and a girl standing together.

2. Before the session, review all instructions.

Directions to be Read to the Students by the Teacher

I am going to read some questions to you. I would like you to answer on the sheet with the animals and children on it. I'll show you how.

1. Now see if you can find the lion in the box with a "1" in it. Next to the lion is a picture of a boy and a picture of a girl like these on the board. If you are a boy, draw a circle around the boy just like this (demonstrate at the board). If you are a girl, draw a girl just like this (demonstrate).

2. Now find the squirrel. Do you see the number "2" in the box with the squirrel? Good. Here's the next question. In our classroom, who should clean blackboard erasers: Boys? Girls? Or both boys and girls? Draw a circle around the answer you think is best.

3. Now find the duck. What kinds of things should men and women do? At home, who should take out the trash? In the box with the duck, circle the boy if you think only men should take out the trash. Circle the girl if you think only women should take out the trash. Circle the boy and the girl standing together if you think both men and women should take out the trash.

4. Now find the puppy. At home, who should wash dishes: Men? Women? Or both?

5. Find the butterfly. Who should play ball with you at home: Men? Women? Or should both men and women play ball with you?

6. Now find the pony. At home, who should take care of children when they are sick: Men? Women? Or both?

7. Find the box with a kitten. Who can use a hammer better: Boys? Girls? Or both the same?

8. Now find the owl. Some children like to play with dolls. Who do you think like dolls: Boys? Girls? Or both?

9. Now find the rabbit. I am going to name some different kinds of jobs. For each job, if you think only men should do the job, circle the boy; if you think only women should do the job, circle the girl; and, if you think both men and women should do the job, circle the boy and girl standing together. Who should be an airplane pilot: Men? Women? Or both?

10. Now find the giraffe. Do you see a "10" in the box with the giraffe? (Write "10" on the board.) Good. Who should be a doctor: Men? Women? Or both?

11. Now find the turtle. Who should be a nurse: Men? Women? Or both?

12. Now find the elephant. Who should be a race car driver: Men? Women? Or both?

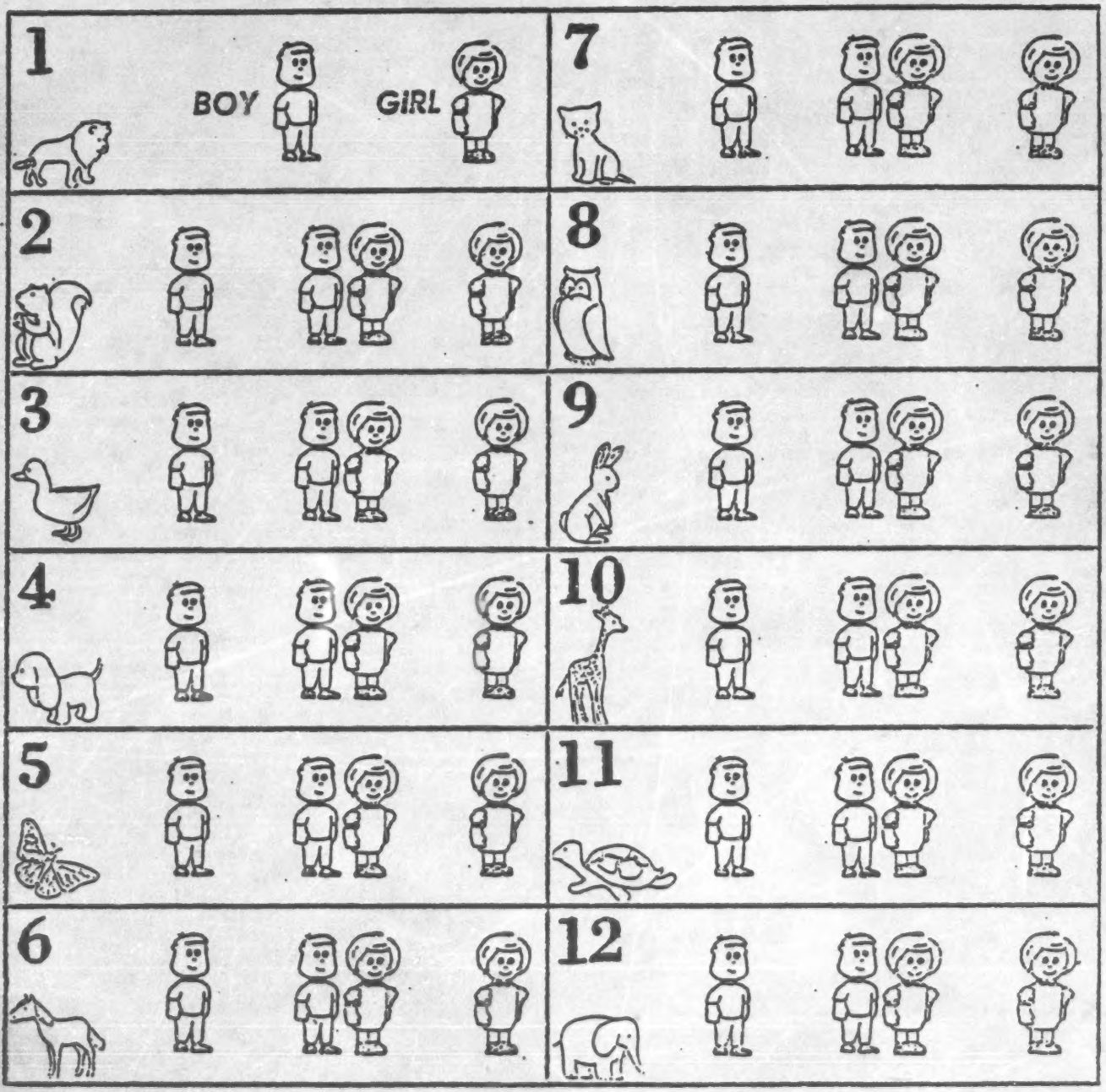
STOP

Thank you for your help!!

SCHOOL _____

GRADE _____

E.C. - B I A H W



INSTRUCTIONS FOR ADMINISTERING THE "WHO SHOULD" QUESTIONNAIRE (Grades 3-6)

I. General Instructions This questionnaire is designed to yield information about third, fourth, fifth and sixth grade students' perceptions of work roles. It contains lists of several jobs which are done in American society, in school and at home. The students are asked to indicate, after each job, whether they think that job should be done by men, women or both sexes.

It is very important that the students understand the directions for this questionnaire because they may not have been asked to respond to questions of this sort before. Some suggested steps for teachers to follow to insure good responses are discussed in the section below.

II. Instructions for Giving the Questionnaire

1. Administer the questionnaire at one sitting.
2. Review the questionnaire and the directions carefully yourself before you administer it to your students.
3. Read the instructions aloud to your students. Read slowly, stress important points, and answer any questions students may have concerning the instructions. Assure students that their answers will not influence their class grades in any way. Point out that they should not write their names on the questionnaires.
4. Be sure to use the same neutral tone of voice when you read each question. A disapproving tone or a sympathetic one can influence a child's response.
5. As you collect the questionnaires, be sure the school, grade, and sex of the student are on the top of each one. Also circle the proper ethnic classification as you collect the questionnaires.

When you have read the instructions with the students, proceed to the questions. Read each question aloud; this is not intended to be a test of reading ability. Repeat the questions when necessary. Allow all students enough time to think over a question and mark an answer before proceeding to the next question. Try to create an unhurried, relaxed atmosphere in which students will take their time to think about the questions and answer carefully.

III. Ethnic Identification As you collect the student answer sheets, circle the proper ethnic classification at the top according to the following code:

Ethnic Classifications
(E.C. on the test headings)

B - Black (not Hispanic)
I - American Indian or Alaskan Native
A - Asian/Pacific Islander
H - Hispanic (Spanish origin or culture)
W - White/Caucasian

This ethnic classification is intended to be an "eyeball" identification done by the teacher. YOU SHOULD NOT, UNDER ANY CIRCUMSTANCES, DIRECTLY ASK A STUDENT TO WHAT ETHNIC GROUP HE OR SHE BELONGS; THIS COULD BE A VIOLATION OF FEDERAL LAW. When in doubt as to what ethnic group a student may belong, simply make a "best guess

It is important that "Ethnic Classification" be completed on each student's questionnaire.

IV. Scoring Scoring the "Who Should" questionnaire is simple. Count the number of times the student circled "BOTH" and put the total number at the top of the answer sheet. If you have time to do this for your class, it would be greatly appreciated. Then put the questionnaires in the enclosed envelope and return to Jane Schubert at the American Institutes for Research.

"WHO SHOULD"

Grades 3-6

SCHOOL _____

GRADE _____

SEX _____

E.C. - B I A H W

PART I. For each of these jobs, circle "MAN" if you think only a man should do the job; circle "WOMAN" if you think only a woman should do the job, or circle "BOTH" if you think both men and women should do the job. Be sure to circle only <u>one</u> answer for each job.

		MAN	WOMAN	BOTH
1.	airplane pilot			
2.	artist			
3.	astronaut			
4.	carpenter			
5.	cook			
6.	doctor			
7.	forest ranger			
8.	lawyer			
9.	librarian			
10.	lifeguard			
11.	nurse			
12.	President of the United States			
13.	race car driver			
14.	secretary			
15.	store clerk			
16.	sixth grade teacher			
17.	telephone operator			
18.	truck driver			
19.	nursery school teacher			

PART II. When there are class jobs to be done, who do you think should do them? Circle "BOY" if you think only a boy <u>should</u> do them; circle "GIRL" if you think only a girl <u>should</u> do them; or circle "BOTH" if you think both boys and girls <u>should</u> do them.

		BOY	GIRL	BOTH
20.	messenger			
21.	class president			
22.	eraser cleaner			
23.	check out game equipment			
24.	class secretary			
25.	class treasurer			

PART III. *Now what* about things at home? For each of these things, circle who <u>should</u> do it: a man, a woman, or both.

	MAN	WOMAN	BOTH
26. When children misbehave at home, who should correct them?	___	___	___
27. Who is the most important in teaching good manners?	___	___	___
28. Who should take care of a sick child?	___	___	___
29. Who is the most important in teaching right from wrong?	___	___	___

PART IV. Here is a list of jobs that people do at home. Circle who <u>should</u> do the job: a man, a woman, or both.

	MAN	WOMAN	BOTH
30. washing dishes	___	___	___
31. taking out the trash	___	___	___
32. grocery shopping	___	___	___
33. paying bills	___	___	___
34. cooking	___	___	___
35. fixing things around the house	___	___	___
36. dusting furniture	___	___	___
37. scrubbing floors and vacuuming rugs	___	___	___
38. sewing	___	___	___
39. working in the yard	___	___	___
40. moving furniture around	___	___	___
41. doing laundry	___	___	___

PART V. Here is a list of spare time activities. Circle who should do them: a man, a woman, or both.

	MAN	WOMAN	BOTH
42. playing football	___	___	___
43. swimming	___	___	___
44. playing the violin	___	___	___
45. going to sports games (like baseball)	___	___	___
46. gymnastics	___	___	___
47. helping in a hospital every week	___	___	___

INSTRUCTIONS FOR ADMINISTERING

STUDENT QUESTIONNAIRE GRADES 7-12

This questionnaire is designed to yield information on student attitudes and needs for support in choosing school classes and careers without regard to traditional sex roles.

Be sure students understand that their answers are confidential; there are no right or wrong answers, and the results will not affect their grades in any way.

Read over the questions and response requirements. Most are very simple and should not require explanation, but if you feel your students may have difficulties, allow them to ask any questions they wish before and during administration. Allow students as much time as they need to answer all questions. If your students have particular reading difficulties, you can read the questions aloud as they follow along.

As you collect the questionnaires be sure the school, grade, and sex of each student are on top of each one. Also circle the proper ethnic classification as you collect the questionnaire. Choose the proper classification according to the following code:

Ethnic Classifications
(E.C. on the test heading)

B - Black (not Hispanic)

I - American Indian or Alaskan Native

A - Asian/Pacific Islander

H - Hispanic (Spanish origin or culture)

W - White/Caucasian

This ethnic classification is intended to be an "eyeball" identification done by the teacher. YOU SHOULD NOT, UNDER ANY CIRCUMSTANCES, DIRECTLY ASK A STUDENT TO WHAT ETHNIC GROUP HE OR SHE BELONGS; THIS COULD BE A VIOLATION OF FEDERAL LAW. When in doubt as to what ethnic group a student may belong, simply make a "best guess."

It is important that "Ethnic Classification" be completed on each student's questionnaire.

Thank you for your help!

STUDENT QUESTIONNAIRE GRADES 7-12

School_____ Grade_____ Sex_____

E.C. · B I A H W

Thank you for answering the following questions. You are one of many students who are expressing their opinions about enrolling in classes in which most of the students are mem bers of the opposite sex. Your answers are confidential: please do not write your name on this questionnaire. If you have any questions about the items, please ask your teache

A. Class Enrollment

Yes_____ No_____ 1. Have you ever thought about signing up for a class or program that has all or almost all students of the opposite sex in it? Put a check by your answer.

If you answered NO, please go on to Section B, Helpers. If you answered YES, please answer the rest of these questions.

_____ 2. What class or program was it? Write in its name.

Yes_____ No_____ 3. Did someone encourage you to sign up? If so, who was it?

Mother_____ Father_____ Brother_____ Sister_____

Friend_____ Teacher_____ Counselor_____ Other_____(who?)

Yes_____ No_____ 4. Did anyone discourage you from signing up? If so, who was it?

Mother_____ Father_____ Brother_____ Sister_____

Friend_____ Teacher_____ Counselor_____ Other_____(who?)

Yes_____ No_____ 5. Did you sign up? Please explain why or why not._____

_____

_____

B. Helpers

If you wanted to sign up for a class or program that is not usually taken by someone of your sex, what would help you most? Put a check under "Very helpful," "Helpful," or "Not helpful" for each statement.

Very Helpful	Helpful	Not Helpful	
_____	_____	_____	1. My friends thought it was a good idea.
_____	_____	_____	2. One or more of my teachers would help me with difficulties I might encounter.
_____	_____	_____	3. My counselor would encourage me and help me with any problems.
_____	_____	_____	4. My parents thought it was a good idea.
_____	_____	_____	5. I could talk to other students of my sex who were takin a similar class (or were thinking about it).

6. Can you think of anything else that would help you?

_____

_____

C. Obstacles. Now think about some of the difficulties you might encounter if you wanted to sign up for a class usually taken by someone of the opposite sex. Put a check under "Very difficult," "Difficult," or "Not difficult" for each.

Very Difficult	Difficult	Not Difficult		
_____	_____	_____	1.	School regulations would prevent me from signing up.
_____	_____	_____	2.	My friends would probably make fun of me.
_____	_____	_____	3.	My parents would think it was a poor idea.
_____	_____	_____	4.	My teachers would think I shouldn't do it.
_____	_____	_____	5.	My counselor would advise against it.
_____	_____	_____	6.	Other students in the class might give me a hard time.
			7.	Can you think of any other problems you might have?

_____

_____

D. Programs You Might Choose. Please read the list of types of classes or programs that might be offered in your school. Check "Yes" if you think they should be available; check "No" if you think they should not. If your school already has such a program, check "We Have."

Yes___	No___	We Have___	1.	Increased emphasis on girls' athletic teams.
Yes___	No___	We Have___	2.	Available information on jobs usually filled by people of the opposite sex and how I could train for one.
Yes___	No___	We Have___	3.	More information on classes usually taken by people of the opposite sex and how I could enroll.
Yes___	No___	We Have___	4.	Opportunities to talk to people who are in classes not usually taken by people of their sex.
Yes___	No___	We Have___	5.	Opportunities to talk to people who are in careers not usually followed by people of their sex.
Yes___	No___	We Have___	6.	Classes in basic car care available to all students.
Yes___	No___	We Have___	7.	Classes in home repairs available to all students.
Yes___	No___	We Have___	8.	Classes in home economics for all students.
Yes___	No___	We Have___	9.	Classes in child care for all students.
Yes___	No___	We Have___	10.	Classroom activities that discuss the changing role of men and women in our society.
			11.	If you could plan a different class or program on topics like these, what would it be? _____

_____

E. Job Suitability. For each job, place a mark next to the "M" if you think only males should do the job; next to the "F" if you think only females should do it; or next to "Both" if you think both should do it.

1.	M___	F___	Both___	Artist	6.	M___	F___	Both___	Typist
2.	M___	F___	Both___	Carpenter	7.	M___	F___	Both___	Homemaker (full time)
3.	M___	F___	Both___	Doctor	8.	M___	F___	Both___	Truck driver
4.	M___	F___	Both___	Auto mechanic	9.	M___	F___	Both___	President of a company
5.	M___	F___	Both___	Elementary teacher	10.	M___	F___	Both___	Nurse